Better Crops

The Pocket Book of Agriculture

September 1924 **10 Cents.**

The County Agent and Cooperative Marketing by O. B. Jessness—The Readjustment Period by A. B. Genung

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NOTE:—*Since two of the figures in this advertisement, as it appeared in August* BETTER CROPS *were incorrect, we are repeating it in its correct form.*

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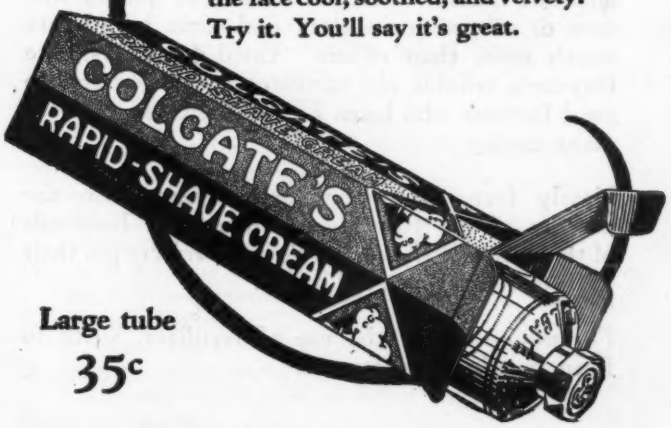

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Better Crops

The Pocket Book of Agriculture

VOLUME III NUMBER ONE

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EDITOR . . . . . Jeff McDermid
MANAGING EDITOR . . . . . Basil Pillard
PUBLISHER and SECRETARY . . Verneur Edmund Pratt
PRESIDENT . . . . . E. K. Howe
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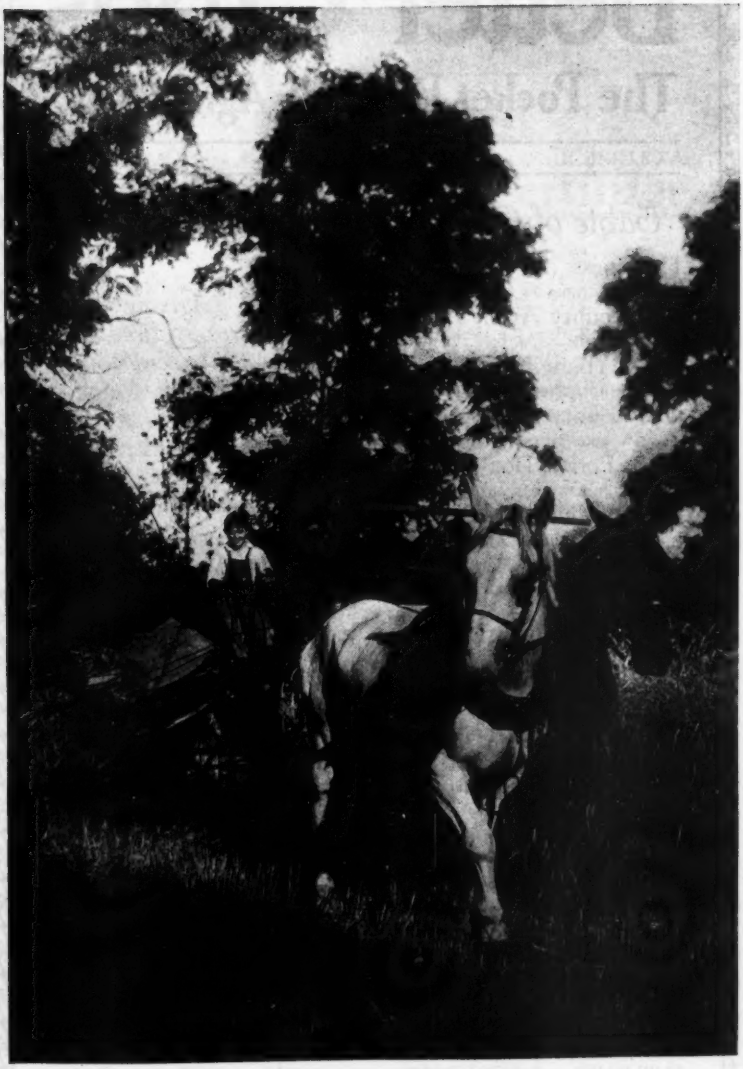
Editorial Office: 461 Eighth Avenue, New York



Harvesting

Better Crops

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HAPPINESS

By Jeff McDermid

MAN'S great search is for happiness.

But what is happiness? And would we recognize it if we found it in our grasp?

I am not sure that the world was intended for happiness. In fact, I believe that there is no such thing—it is all in the chase, just as there is no such thing as education, *per se.*

There is, I grant, a continual hunt for facts, for knowledge. We are all being educated every day—some against our wills. But education lies in the search, and happiness is found only in the chase.

Happiness is a coquette—always just around the corner, luring us on. But upon her face has no man ever gazed. No sane man has ever died, breathing, "I have been truly happy."

Happiness is a turn of mind—and as the mind is always turning, there can be no permanent happiness. We may catch fleeting glimpses of it, but it slips from our grasp as we make the effort to catch it.

THERE are those who, faced by an inconvenience, turn it with a jest into rare convenience; who, perplexed for a moment at finding themselves in an unbearable position, laugh finally at their temporary misfortune and—turn to the right!

Others there are, (and I know a few of them, Hank!) that breed unhappiness as an empty tomato can breeds mosquitos. They are not

only themselves unhappy but they make others unhappy.

Everything they have is unfit, all their friends are envious devils, their lot in life is extremely sad, their merits unappreciated. There is always too much salt in the soup, and there are burrs in the cow's tail.

If happiness is a turn of mind, and I believe it is, then some folks are more to be pitied than censured, for in them lies no disposition to be pleased with what is pleasing.

Sometimes this spirit arises from a desire to be criticial. Ofttimes from the assumption that the critic finger points to progress, but more often from the belief that to show disgust with things as they are, proves one's finer appreciation of things as they should be; sets up, as it were, the thought that one is accustomed to better surroundings, nicer people and much more ease and luxury.

THE first thing some people do, upon taking up new work, is to establish once and for all, their superiority over their fellow workers by criticizing everything their eyes fall upon.

Thus they hope to lead others to believe that they are used to better things and are only staying in the beastly place and doing the horrible work for some reason they care not to explain.

Their unhappiness is based on discontent. And soon this seed, sown through a desire to appear superior, develops into a habit—and all life becomes a sordid thing, a veritable hell upon earth in which no happiness is to be found and the search accordingly useless.

Discontent is, of course, the antithesis of happiness.

But, peculiarly enough, happiness does not lie in trying to be contented.

For full contentment is stagnation, and stifles happiness entire. Progress, and what meed of happiness any of us is fit for, lies in a certain measure of "divine discontent"—the itch to do the thing a little better than before, to plod one more weary mile upon the way, to plant the staff a little higher up the hill.

Every man believes that his burdens and misfortunes are peculiarly unbearable.

I believe it was Socrates who said that if all the misfortunes of mankind were cast into a pile, and then equally distributed among all, those who now think themselves unhappy would perfer their present burdens to those which would fall to them by such an equal division.

Calamity comes to all. "Into each life some rain must fall."

Envy, pain and sorrow are with us always, and happiness being the absence of sorrow, pain and envy there can be no happiness.

But there can be the *search* for happiness, and in that search lies the nearest approximation to happiness of which man is capable.

Nearly everyone—excepting you—wants something he hasn't got.

And often that something is more money.

All my life I have been a seeker after something I haven't got. I have roved and turned, and walked, and struggled, and chased, and pirouetted after the will of the wisp. Sometimes it was more money. Often it was more satisfying companionship. Once it was better health, and like the "Acres of Diamonds," the health was found, not out in the dust-dry atmosphere of Arizona but on my own farm, painting the house!

Searching, hunting, seeking!

AND then one day I saw two cows.

It seems like sliding from the sublime to the ridiculous to say that two cows changed my philosophy of happiness, but as I am nothing if not truthful I will admit

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The County Agent's Wife

By L. E. McDaniels

County Agent, Basin, Wyoming

¶ This one is hard on unmarried County Agents, but you can't blame the author unless it be for failing to tell us how to pick a partner like his.

I DO not think we need to argue as to the necessity of a county agent being a married man with its minor question of being able to support two, etc., etc., in addition to the question of how much a man should have when he takes a partner. All thinking people know that any man either too young or too selfish to marry and make a home is not fit to be intrusted with the responsibilities of advising others on matters that are a basic part of his duties. The amount one has to begin with has no bearing on the matter since training and environment of the woman would make a pittance to one seem ample to another, yet both would be good partners once they were initiated into the work of community leadership.

In the case of my wife she was not only farm but ranch raised and in addition had special training as a nurse which made her invaluable to me in my work with the women of the county since we have no Home Demonstration worker or County Nurse.

IN my five years of work as county agent my wife has taken a keen interest in every phase of my work and has worked with the specialists from the college in staging demonstrations until she became even more efficient than myself in many lines and as a result of this interest she has kept the county abreast of those which do have demonstration agents in such work as Hat making, Dress making, Poultry raising and all classes of club work. In fact, her efforts along the line of boys' and girls' club work have been recognized by the County Farm Bureau organization to the extent of electing her the County Club Project leader.

The reason for this honor is that each year of the four spent in this county she has personally trained the winning county champion girls' club team and for two years trained the state champion team and from the girls in her club there was selected the state champion girl in home making who was awarded the trip to Chicago last Fall.

She helped me to train the state champion poultry demonstration team and with her suggestions and personal work she has made it possible for me to win the sweepstakes at the State Fair for three years in succession for my county.

Owing to the fact that my county is larger than some of the Eastern states it is necessary for me to be

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Even President Coolidge took a few minutes out of his busy day to chat with these Hoosier visitors.

These Young Folks Amazed Washington

By F. M. Russell
U. S. Department of Agriculture

"Few things give me a greater thrill than the achievements of our farm boys and girls. These Indiana champions are typical of the great work being done by boys' and girls' club throughout the country.

"I CONSIDER this one of my greatest pleasures," said Secretary of Agriculture Wallace as he stepped out of his office to greet a small band of boys' and girls' club winners from Indiana who were visiting Washington as a reward given state champions in competitive club work during the past year. "Let me congratulate you most heartily for what you have been able to accomplish and to assure you that I have a deep interest in the boys and girls who will have to be running things only a few years from now."

When this small group of modest Indiana farm youths recently came to the seat of our government, and their achievements became known after much questioning of their leaders, Washington got a genuine thrill, such as it has not enjoyed for many a day. And the least excited or disturbed were the young people themselves, no matter whether they were in conversation with President Coolidge or Secretary Wallace, or were being lauded by the scores who took this occasion to pay their respects to the great work being

done by the farm boys and girls of the United States in the thousands of worthwhile clubs.

State champions they were, this small band of Hoosier young people who were visiting Washington as a reward for the many hours they had spent on the farm in competition with hundreds of others. Yet it was difficult to find out just what they had done to warrant state championship honors, even in questioning their leaders. It was necessary to consult the records. One of the most gratifying by-products of club work seems to be a very profound sense of modesty, instilled by wise leadership and the very nature of the American farm youth. That the unassuming attitude of this particular group was not due to youthful embarrassment is vouched for in the admirable manner in which they conducted themselves as they were being introduced and congratulated by the President and other national leaders. Such actions speak well for the future of American agriculture.

THERE is only one way correctly and definitely to tell the story of these state champions from Indiana. Their verified records speak for themselves.

Although it is difficult to know just where to start on the list, as they were all leaders in their own particular field honors perhaps should go to Robert Wilson of Muncie, not only because of what he has done but because of his age. He was but 12 years old. "The premier boy exhibitor of the United States" is what he has been rightfully called. He • exhibited the Grand Champion Steer at the Indiana State Fair last summer and followed this up by winning Grand Championship stakes in the Junior Class at the International Livestock Exposition in Chicago, the country's leading livestock show.

Next in order should come the four young ladies in the party of champions. Sixteen year old Harriet McCutchion of Inglefield, who posed shaking hands with President Coolidge while a battery of cameras got busy, had a perfect right to the honor. Between April 14 and December 31, 1923, Harriet made 65 garments, valued at $178, which took her a total of 378 hours.

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Secretary Wallace says he gets particular pride in having his picture taken with farm girls. He is shown with the four Indiana champions.

The County Agent and His Relation to COOPERATIVE

By O. B. Jesness

Chief, Section of Markets
Kentucky Experiment Station

THE county agent and other extension forces in many localities have been subjected to criticisms for the part they have or have not taken in the development of cooperative marketing enterprises among farmers. The county agent has been accused by some of meddling in other peoples' affairs and by others of being guilty of not doing anything to help the farmer with his marketing problems. The divergence of opinion on this question is shown by the fact that some agents have found themselves in the peculiar position of being charged with overstepping the limits of their field of work by one element in the county because of their interest in cooperative marketing and at the same time have been accused by others of a lukewarm attitude towards cooperative marketing. Can such an agent be blamed if he feels that he is between Mephistopheles and the deep blue?

Individuals whose business is adversely affected by organized marketing activities among farmers naturally regard such ventures with disapproval. A livestock buyer, for example, can not be expected to look with favor upon a shipping association which takes his business away from him. If the county agent has been called upon by his farmers for information and assistance, the dealer may feel that the agent is at the bottom of it all.

ON the other side may be cooperative enthusiasts who think there are no limits to what the county agent should do in helping cooperative marketing enterprises and particularly in pushing their pet plan of organization. They likewise fail to see the relationship of the extension agencies to cooperative marketing in the true light. Such individuals need to appreciate that everyone does not think alike on such questions. There is frequent divergence of views among organization leaders and the rank and file of farmers with respect to certain plans of organization. The extension worker who is a public employee must hold himself aloof from petty partisanship in such matters if he is to retain the public's confidence. He must recognize the right of each individual to form his own conclusion and keep himself in such relationship that he can serve his people to the fullest extent possible in giving true information and sound advice. Leaders in cooperative marketing organizations in time will come to appreciate more and more

¶This subject raises problems that every extension worker has to face sooner or later. Mr. Jesness discusses them sympathetically and offers a sound solution.

MARKETING

the soundness of permitting the county agent to retain his true position as an educator and realize that in this capacity the agent will be of more permanent benefit to constructive development than if he assumed the role of a propagandist.

The extension worker himself has not always been blameless. An occasional agent becomes so overimbued with an idea that he loses the right perspective of his job and lays himself open to criticism because of his activities. Some agents have chafed under what they have regarded as unwise and unnecessary restrictions. This may have been justified at times. Sometimes it has been caused by misunderstanding. Is there not reason to suspect that it may at times have been due to failure to see the field for educational work in cooperative marketing?

THE past fifteen years or so have been a pioneering stage in the agricultural extension movement. The field was new and experiment had to take the place of experience at many turns. Out of these years has come the outstanding fact that an extension agent is as much of a teacher as is the instructor who remains within the campus class room. As a teacher it is his job to get others to think, to reason and to apply. It is not his job to perform personal services or do the thinking or arrive at decisions for his farmers.

This was plain in the field of production from the very first although even here there have been numerous instances where the line between service and teaching has been but faintly drawn. The agent who has demonstrated the pruning of fruit trees to a farmer only to have that man ask him when he could return and prune the remainder of his orchard, knows this to be a fact. In the field of marketing, it has frequently not been as easy for either the farmer or the agent to see the proper boundaries to extension work. As a result, some agents were led to render a commercial service for farmers in marketing of a nature which they would not have thought of doing in problems of production on the farms. These have been exceptional instances, however.

More and more we have come to see that the proper field of activity for extension forces is that of education, both in marketing and in production. If that is the case, what properly can be said to fall within the educational phase of marketing and cooperation? To handle farm

products for the farmer is one thing. To acquaint him with better methods of handling is another. The former is merely personal service; the latter is educational. If you go out and drive the manure spreader for a farmer you are doing him a service which helps him that much for the time being. If, instead, you teach him some principles and facts about soil fertility and its maintenance you have given him something that not only will serve him permanently but which also may make of him a teacher among his neighbors.

Just as the extension work aims to bring into use improved and more efficient production methods so it must bring better selling methods by teaching about the methods of marketing in use and how better methods may be adopted. There is this limiting factor at the present time, however, Cultural practices have been the object of research and study for a long period of time. Study of selling problems is of much most recent origin so that there is not yet as much material assembled nor as general understanding of marketing as of production. Moreover, many phases of marketing relate to the products after they have left the farmers' hands or require group action rather than individual attention. Another point to consider is that the educational training of most agents has stressed the production side with but little attention given to the economic and selling side. As information is obtained about marketing, more material for teaching becomes available for the agent's use in building up his educational program in this field.

THE question might well be asked what need is there for an educational program in cooperative marketing and what should be embraced in such a project? Perhaps the suggestion that an educational program is needed in cooperative marketing at present may strike some as being a case of "carrying coals to New Castle." Let us see what the situation really is. The emphasis in marketing has been placed largely upon organization work. An organization formed has been a feather in a man's hat. This emphasis has aided in getting some agents into difficulty. Some have forgotten that cooperative marketing was a business undertaking and that it is preferable that a man make up his own mind as to whether or not he wants to go into business rather than to have some one else attempt to decide for him. Some have also

(*turn to page 57*)

County Agent C. F. Striplin of Madison County, Alabama, discussing cooperation with negro farmers.

What Potash Does *for* Crops

By George E. Stanley

(This article written by a student of the College of Agriculture, University of California gives an excellent account of the functions of potash in agriculture.

EXTENSIVE research has shown conclusively that at least ten elements are absolutely essential to plant development. Of these ten, there are four which the plant may obtain, at least in part, from the air. Of the remaining six we find four which are needed in small amounts only and are seldom, if ever, found to be of a limiting nature to plant development. Of the other two we find potassium, the element with which we are here dealing, of the utmost importance to plant growth.

Potash no longer has "a function" in crop development. It now has "functions." There are potash functions which affect yield and others which affect quality of product or crop. All usually interact to the end that their omission is disastrous and their inclusion spells success. Let us now consider those which affect quality of the crop or product, or the condition of the land after the crop is removed.

FROM recent experiments carried out in France, it is concluded that crops on soil deficient in available potash cause an uneconomical use of other nutritive elements so that a small crop may absorb more of these constituents from a soil deficient in potash than a large crop from a soil rich in potash. Thus we obtain waste and a small yield where potash is lacking; and an economical use and large yield where potash is present in sufficient amount for the crop.

Perhaps the potash function which is next in importance to that of the general conservation of soil ingredients is that of carbohydrate formation. From extensive experiments conducted by Hellriegel, Wilforth, and Hall of the Rothamstead Experiment Station, it seems conclusively proven that the process of photosynthesis in the leaf and the consequent storage of carbohydrates in grain and roots is largely regulated by the potash supply available to the plant. Bearing out these observations it is shown that potash increases the size and quality of cereal grains, while phosphoric acid and nitrogen have no appreciable effects. Tests at Rothamstead Station with mangel wurzels show that plants having identical environmental conditions with the exception of potash, and having as nearly identical leaf areas as possible vary considerably in carbohydrate formation depending on the presence or absence of potash. It was found that adding potash increased the amount of carbohydrates formed two and one-half times. It is, therefore, reasonable for us to expect

potash to play an important role in determining the success of a cereal, root, or other crop high in carbohydrates.

It is now also held that potassium performs valuable functions in the formation of proteins by plants, and that it aids cell and nuclear division.

A fourth function of importance is that of strengthening the resistance of plants to diseases, frost and insect attacks. In farm practice instances sometimes occur where plant diseases become unusually severe, due to a lack of potash. The outstanding example of this is, perhaps, Cotton Rust. Professor Duggar, while connected with the Alabama Experiment Station, conducted experiments with cotton and repeatedly demonstrated that the rust could be prevented by obtaining the proper soil conditions through the application of potash. This general weakening due to potash deficiency is a common one with all sorts of plants. Pineapples are shown to have become so susceptible to frost in St. Lucie County, Florida, when not supplied with potash, that the entire industry in that section suffered serious financial reverses. The frost susceptibility is still greater if nitrogen is added. Many more similar cases could be given in detail. For instance, various men find potato diseases, stem rusts of grasses, weak stems, lack of chlorophyll in leaves, and susceptibility to other general diseases, all directly traceable to a lack of potash. In this regard it may be well to quote Van Slyke, who says.—"In general, crops which do not receive their full supply of potassium are more liable to disease, and in this condition the resisting power is weakened still more if the plant receives large amounts of available nitrogen."

UNQUESTIONABLY, then, the presence of an adequate supply of potash has much to do with the general tone and vigor of the plant. What effect does it have on the yield—that part with which our pocket-books are most intimately concerned?

In many cases experiments in recent years on soil of varying types have shown increases in yield all the way from two to five or six times, by the application or potash fertilizers only. These are surely too numerous to be cited here. To pick the outstanding examples would be unfair, so we briefly mention a few average experiments out of the great numbers.

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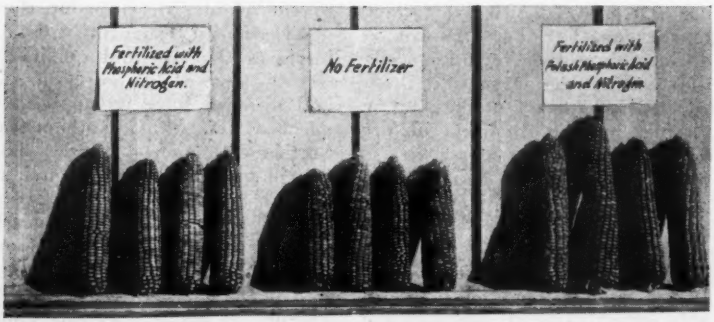

Mr. L. C. Reynolds experimented with corn on his brown clay loam soil in Shiawasse County, Michigan. By using potash, he increased his yield 39 bushels over the unfertilized plot and 24 ½ bushels over the plot where only nitrogen and phosphoric acid were used. Note the quality of the ears from the potash plot.

The Readjustment Period

By A. B. Genung
U. S. Department of Agriculture

¶Because he is constantly in touch with the latest information on agricultural conditions and because he has unusual ability to analyze the economic situation, every word that Mr. Genung writes is worth reading carefully.

YOU can put your finger on the exact hour of birth of this present-day readjustment period. It was 11 a. m., November 11, 1918.

On that cold, sour, fall morning the Armistice orders went down the three-hundred-mile battle line in France and the roar of guns died down as though some giant hand had wiped them from the earth.

Never a more abruptly dramatic event. Never one more far-reaching in its economic consequences. That morning changed the background of the world's daily work.

Not that this change was instantly felt everywhere. It was not fully felt in this country's factories and farms for a year and a half after the Armistice.

Nevertheless, when the war stopped, something else began, which is simply a way of repeating that the period we are going through is a post-war period. That is the first thing to keep straight in our thinking, the fact that these are abnormal times, the product of an even more abnormal time. Changes that the war years forced upon our economic community under the pressure of great emergency, peace years must iron out in their more deliberate way. War always gears up the economic machine to higher speed. It flings national wealth prodigally into the maw of destruction; by the same token it spurs men to feverish production of more materials. Price relationships are upset but actual prices of basic necessities invariably soar to the point of stimulating production. Food and equipment for the army become vital. The thing is to get them. Consequences are something to be considered later.

But an upheaval in economic relationships always has consequences. There is always a "post-war period." The community always pays the piper when it goes through the process of reestablishing the normal balance in its industries and among its workers.

SO it has been this time. A gigantic war; a profound upheaval in world-wide currents of production and distribution; and now a long, slow, painful readjustment of those processes. We are right in the midst of this last. It is a world-

wide affair, not in any sense peculiar to the United States. The wheat grower in North Dakota will find other growers in Canada, Australia, India, Argentina, England, who can match his present story of trouble, item for item.

At the time of the Armistice, the United States was just getting into its real stride of production. Our factories and our farms had gone into action in dead earnest. Looking back upon it, one can not help but marvel at the pace to which a vast, unwieldy industry like agriculture had been keyed up. The cold statistics show an 18 per cent increase in crop production per agricultural worker between the years 1910 and 1920, almost a fifth increase in efficiency in the war period.

It was not alone high prices that did this, though they were an incentive. Overlay a strong economic motive with such waves of patriotism as swept this country and you get results. We got results.

The Armistice did not quite wind up war affairs, however. There remained the little matter of financial arrangements, the Victory Loan, etc. As soon as business had caught its breath, had caught the flood of emergency orders from Europe, had tasted the easy credit conditions, it set things going again with a flourish. In 1919 came the splendid orgy of speculation, of inflation, of skyrocketing prices, of insane assurance that the only direction values could ever take was upward.

IT was in 1919 that agriculture, like other industries, unconciously laid the groundwork for subsequent readjustment. Farmers had every reason to expect that they, in common with other producers, would be called upon to supply war-torn Europe with basic necessities for some little time.

The price of wheat on United States farms was 150 per cent above its pre-war level in the spring of 1919. We produced a tremendous wheat crop that year, the second largest on record. Still wheat prices held and even went higher.

In the spring of 1920 the average price at the farm was 170 to 180 per cent above pre-war. It is not exactly to be wondered at that the Wheat Belt was optimistic, that wheat land values surged upward.

Hog prices were around 140 per cent above pre-war in the spring of 1919. They had been nearly up there for a year and a half. Hog production increased.

Corn prices were also up around the same level. And the multitude of pigs to be fed carried corn prices still higher into the spring of 1920, even though hog prices naturally had begun to drop.

The price of cotton at the farm mounted all during 1919, until that fall it was 235 per cent above pre-war.

So on with other important products. Wool, potatoes, beef cattle, butter, eggs all went into the year 1920 at relatively high price levels, and with these great producing regions extending their resources to the limit, to meet the market.

THEN, like a thunder-clap came the price collapse of 1920. Europe and, in fact, most of the agricultural world had come forward with promise of abundant crops. In this country, inflation reached and passed a crest. There came "buyers' strikes," tightening interest rates, deflation. Down went the structure of prices—raw materials and farm products in particular falling first, hardest, and farthest. It was the most precipitate crash of prices in our history.

The autumn of 1920 found our great farming regions flat on their backs. Prices of cotton, potatoes, corn, wool, cattle, dropped to and

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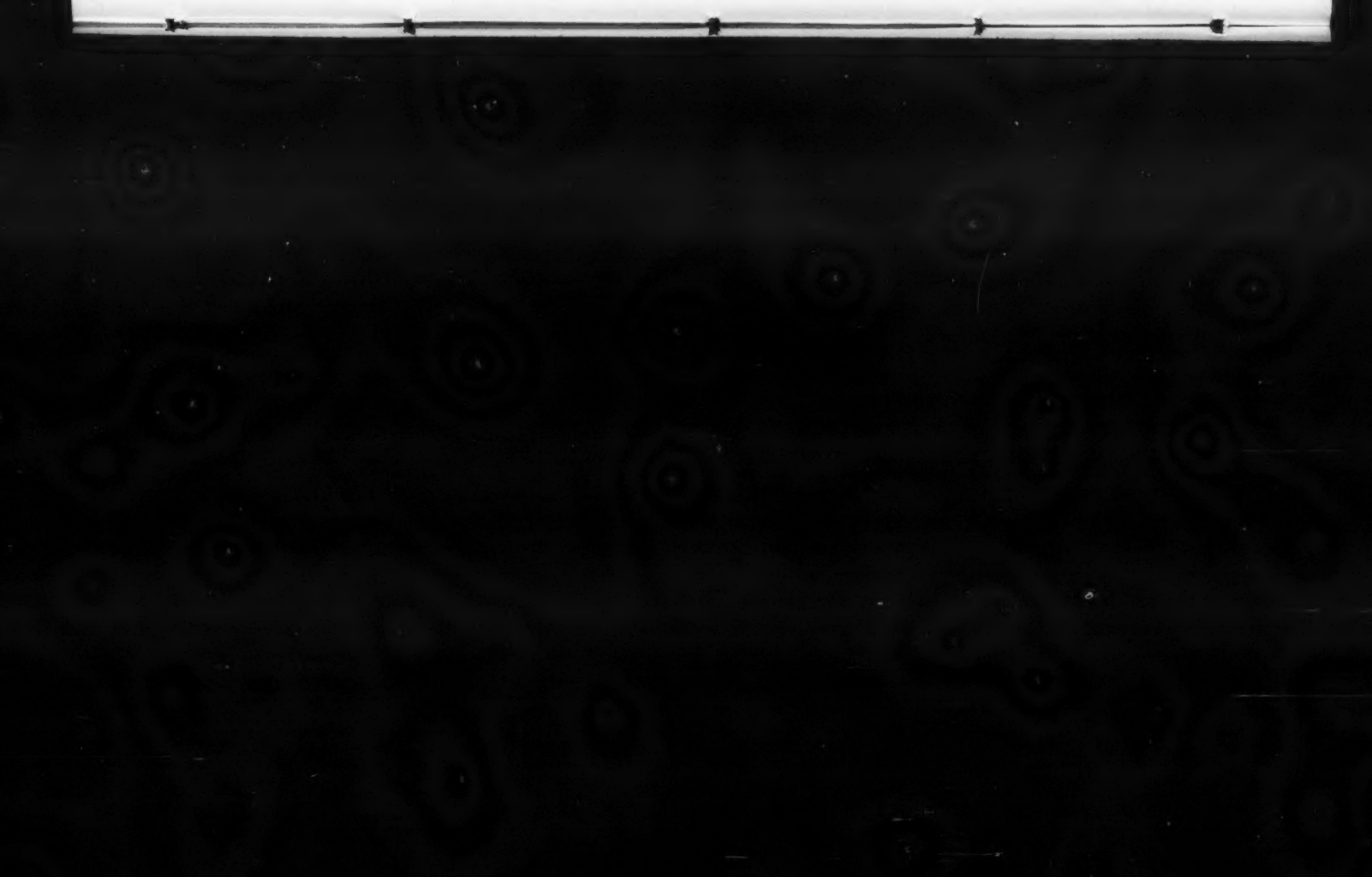
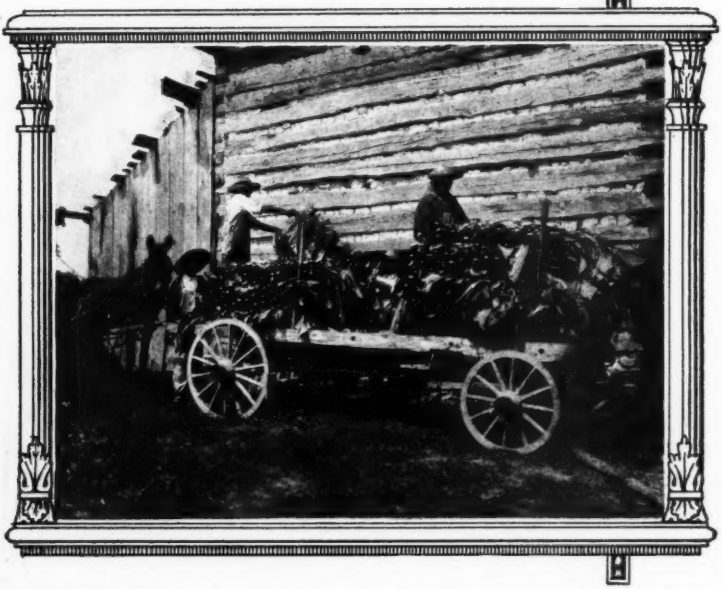


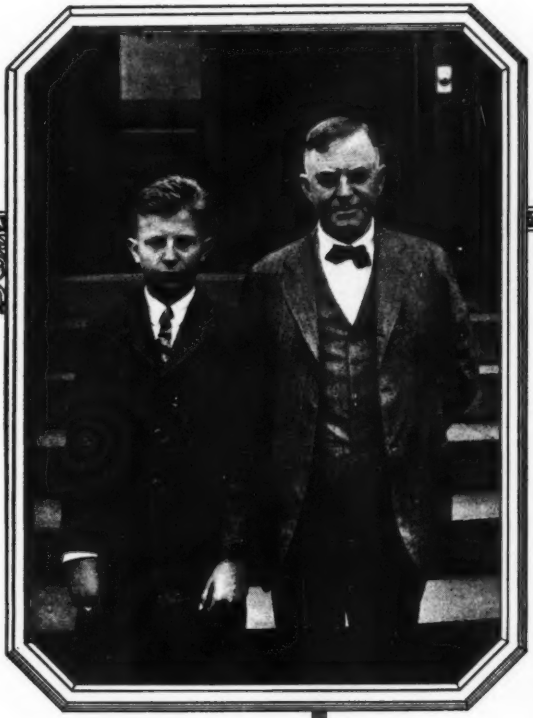
Better Crops' ART GALLERY of the month

Although he is still a young man, Mr. A. B. Genung is rapidly earning recognition as one of the leading agricultural economists of the country. He is working in the Bureau of Agricultural Economics of the Department of Agriculture and is responsible for the Agricultural Blue Sheet, one of the Department's most popular publications.

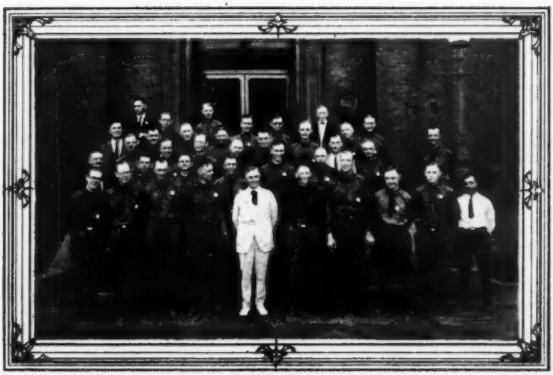
No, gentle reader, this was not snapped in the sunny tropics. It shows a county agent inspecting a sugar cane crop in Crisp County, Georgia.



Putting the golden leaf in a tobacco barn in Alamance County, North Carolina.

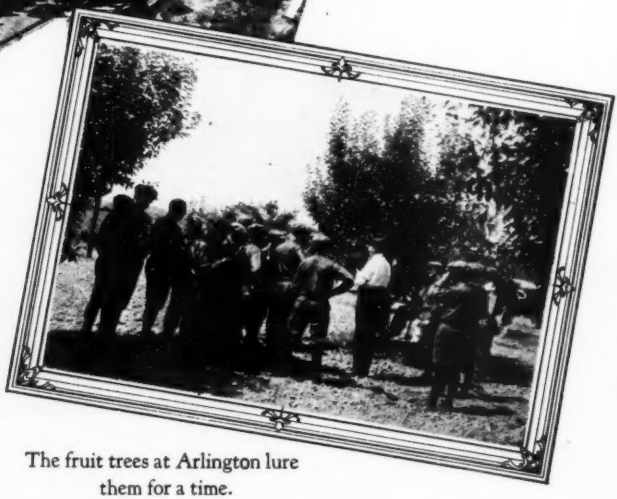


Who is the prouder of these two? Secretary Wallace or Robert Wilson of Indiana, known as the "premier boy exhibitor in the United States". See the story on page 8 of this issue.



These are the 30 Indiana county agents whose recent trip to Washington is described on the opposite page. They are shown here with Secretary Wallace.

They inspect apparatus used in investigating road wear problems at Arlington Farm.



The fruit trees at Arlington lure them for a time.

30 County Agents Camp *at* U.S.D.A.

By C. E. *Gapen*

IT is probable that the thirty Hoosier county agents who made a pilgrimage to the Department of Agriculture at Washington this summer, have started something which will result in a good deal of wear on the east and west highways and, perhaps, on those running in other directions from Washington. Unlike the pilgrims of olden times, they did not come in footsore and weary, but housed in a comfortable "bellicose" bus they arrived fresh as the day they started, eager to load up on any new ideas they might encounter. They brought along their tents and beds and, for the first time in history, there was a busy camp right alongside the Secretary's office. Here they lived for several days while making trips to the various bureaus and to the Government farms at Beltsville, Md., and Arlington, Va.

The party was headed by W. V. Kell, Assistant County Agent Leader for Indiana. It was Mr. Kell's idea which resulted in one-third of the Hoosier county agents taking this epoch-making trip. All these men made the journey at their own expense, which is considerable of a tribute to their interest in the work of improving agriculture in their respective counties. They are now sure that the idea is a good one, for not only did they get acquainted with many people in the Department of Agriculture and learn a good deal from the experimental work which is being done in and near Washington, but they found that the trip was a lesson on ways of conducting an educational tour.

THE trip in the big bus lasted about two weeks, a good part of one week being spent at Washington. Later they traveled to the famous agricultural section of Lancaster County, Pennsylvania, then to State College, Pennsylvania, and farms in the vicinity and later they visited the famous experimental farm at Wooster, Ohio.

Not all the time of the county agents was spent in heavy study of agricultural problems. Recreation was also on the program. In Washington they visited all the famous points of interest. On one evening they were entertained by the famous Marine Band in front of the Capitol. No wonder that many of these men have resolved to take this 2,000-mile trip again with their own cars and their families.

The party which filled the big bus was made up as follows: W. V. Kell, assistant county agent leader, Indiana Agricultural Extension Service; R. R. Mulvey, assistant in soils and crops, Indiana State Experiment Station; T. R. Johnston, in charge Purdue University News Bureau; and County Agents T. C. Craven, Morgan County; Harold Yarling, Pulaski County; A. L. Hodgson, Delaware; M. E. Cromer, Hancock; Warren O'Hara, Spencer; O. S. Williams, Johnson; R. W. McClain, Marion; C. U. Watson,

(*turn to page 48*)

The Way to Better Profits

By Robert Stewart
University of Nevada

¶In this article Dean Stewart has struck the keynote of profitable agriculture. I particularly recommend it to your attention.

THE quality of the soil is an important factor affecting the profits obtained by the farmer. The idea is quite prevalent that in crop production the point of diminishing returns has been reached, nationally speaking, at least. This means that in crop production a stage has been reached beyond which increased yields necessitate costs out of proportion to the possible income so that additional yields may cost more than the values of these yields and thus can be obtained only at the expense of farm profits.

The quality of the soil does have an important bearing on the farm profits. This is an axiomatic truth. The extent of this influence may be seen by the following data obtained from the several states by farm management surveys:

The effect of Crop Yields on the Labor Income

Crop Index	Labor Income
Kentucky	
90 or less	$ 217
91–100	519
101–110	701
111–120	1,080
Over 120	1,103
Oregon	
91 or less	653
92–106	1,085
Over 107	1,596
Missouri	
60 or less	105
61– 75	128
76– 90	473
91–110	601
111–130	857
Over 130	908

In Kentucky an increase of 30 per cent in crop yields or crop index brings about a 408 per cent increase in the labor income. In Oregon a 16 per cent increase in crop yields brings over 144 per cent increase in labor income. In Missouri an increase in crop yields of 70 per cent brings an increase in the labor income of almost 765 per cent. The importance of high quality of soil as indicated by greater crop yields *does have* a marked influence upon the farmer's returns as measured by the labor income. Assuredly, then, he should pay the most careful attention to soil quality as a very material factor affecting his income.

ANOTHER way of getting an insight into the effect of soil quality on the farm profits is to consider the effect of yields on the per bushel cost of producing the crops. Some instructive data on this point have been published from Texas.

Effect of Crop Yields Upon the Cost of Producing Corn

Yield	Cost per bus.
20 bushels	$0.94
21–30	0.53
31 bushels or more	0.45

When the yield has been increased by 50 per cent the cost of producing the crop has decreased by over 50 per cent.

In industry, other than agriculture, the business manager is constantly striving to increase profits and he attempts to do this in two ways; (*1*) by reducing the cost of production, and (*2*) by merchandising the product in the most efficient way possible. It is quite evident from the data presented that the farmer can do likewise and increase his profits very materially by (*1*) reducing the cost of producing his crops, and (*2*) by merchandising his crop in a more efficient manner by the aid of his cooperative marketing association.

THE farmer who is content with average yield and average results will in good times make a little money and may usually "get by" with an indifferent living. In times of stress, such as prevailed during the agricultural depression of the past three years, he will be in a serious condition, or perhaps will fail and move to town. He is ***always a liability*** *to the agricultural industry.*

If it costs $5.00 per acre to raise corn for the operation of plowing, harrowing, disking, and cultivation and five cents a bushel to harvest and market it, and nine cents a bushel to maintain the fertility of the soil and one-half per cent on the value of the land for taxes, then land which produces only twenty bushels of corn is worth only $40.00 per acre with corn at 50 cents per bushel and interest at 5 per cent.

On this basis land that will produce 40 bushels of corn is worth $171.00 an acre; land that will produce 60 bushels is worth $320.00 an acre; land that will produce 80 bushels is worth $433.00 per acre and land that will produce 100 bushels is worth $563.00 per acre.

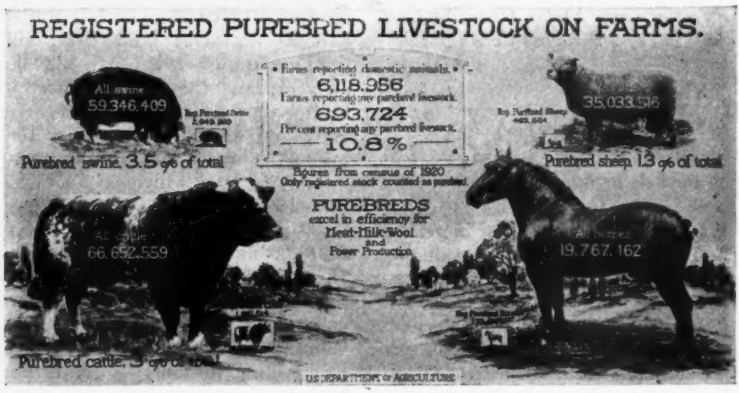
That is, land which produces 80 bushels of corn per acre will pay $5.00 per acre for raising the crop, $4.00 for harvesting and marketing, $7.20 for restoring the fertility of the soil, $2.16 an acre for taxes and will pay 5 per cent interest on a valuation of $433.00 an acre, with corn selling for only 50 cents per bushel!

The average yield of corn in the United States in 1922 was 28.2 bushels and the average farm price was 65.7 cents; the average acre value was therefore only $18.55!

On the University of Illinois farm where a good system of crop rotation is practiced the 10 year average yield of corn is 56.6 bushels with an acre value based upon 1922 prices of $36.18. On the same farm where a good rotation of crops was practiced and ground limestone, and full fertilizer treatment applied the yield of corn was 78.3 bushels, with an acre value of $51.46! Such land paid $5.00 per acre for raising the crop, $3.90 for harvesting and marketing, $7.05 for additional soil fertility, $3.20 an acre for taxes besides 5 per cent interest on a land valuation of $640.00 per acre.

Or, looking at the problem from another point of view: a 320 acre

(*turn to page 48*)


REGISTERED PUREBRED LIVESTOCK ON FARMS.
All swine 59,346,409
Reg. Purebred Swine 2,043,300
Purebred swine, 3.5 % of total
Farms reporting domestic animals 6,118,956
Farms reporting any purebred livestock 693,724
Per cent reporting any purebred livestock 10.8%
Figures from census of 1920
Only registered stock counted as purebred
PUREBREDS
excel in efficiency for
Meat-Milk-Wool
and
Power Production
All cattle 66,662,559
Purebred cattle, 3 % of total
35,033,516
Purebred sheep 1.3 % of total
All horses 19,767,162
U.S. DEPARTMENT OF AGRICULTURE

The percentage of registered purebred livestock on farms is exceedingly small. Livestock improvement is really just beginning.

Livestock Breeding

By D. S. Burch

Bureau of Animal Industry
U. S. Department of Agriculture

HEREDITY is a force—a tremendous force—constantly in operation. Like other natural forces it may go to waste, or it can be harnessed to do useful work. When the breeding of domestic animals is left to chance or is conducted with little thought, the power of heredity goes to waste. When, on the other hand, a livestock owner studies breeds, types, and pedigrees in terms of his requirements, and mates his animals accordingly, he puts heredity to useful work.

The Author
Mr. D. S. Burch

"I cannot imagine any business man taking chances with animals of mixed breeding," a breeder of Jersey cattle in New Hampshire remarked in discussing the development of his herd. "While I have no doubt," he continued, "that there are plenty of grade cows that are as good as most good purebreds, the chances are very much in favor of the purebreds because they have been bred for many generations with improvement as a goal. To me this is a most important item for we cannot know how good an animal is until it has functioned. If it proves worthless after being properly raised, our time, labor, and investment are wasted."

The foregoing opinion, though sound, represents rather advanced views which all livestock owners probably are not ready to accept.

A purebred bull, scrub cow and grade calf. Note resemblance of calf to sire. The use of purebred males quickly grades up the most inferior herd.

by Choice *and* Chance

¶The author of this article started the "Better Sires—Better Stock" campaign which now has 14,000 converts. You will find his description of the work unusually interesting.

Good grade cows certainly are valuable property, especially when the herd is sired by a first-class purebred bull. But the remark illustrates the use of heredity in a practical way. It shows the confidence which a successful breeder places in good blood as being more certain to produce desired results than mixed lineage.

THE animal population of the United States is well over 200 million head, numbering about twice as many as the number of persons. Naturally to obtain results in the improvement of this vast quantity of stock, a plan needs to be simple enough to appeal to a large proportion of livestock owners as well as being effective in accomplishing its purpose. The "Better-Sires—Better-Stock" plan, as it is called, is merely a convenient means of getting stockmen, dairymen, and poultry raisers interested in animal breeding. It paves the way for other more specialized methods such as cow-testing associations, ton-litter contests, and the various other excellent forms of organizations of the more advanced kind.

Records of the U. S. Department of Agriculture show that in less than five years more than 14,000 livestock owners have tried the "Better-Sires — Better-Stock" plan, and reports indicate about 99 per cent satisfaction with results. A Texas farmer, whose chief goal is more efficient production, recently told of using his sixth registered bull for the improvement of his herd. "All males, including hogs, turkeys, and chickens are purebred 'stuff'," he added. Besides the better yields, he also reports that his improved

stock make about 25 per cent more efficient use of their feed from a financial standpoint. Here is the plan of the campaign in brief.

THE U. S. Department of Agriculture issues blanks called enrollment blanks. Anybody can get one by asking for it. County agents, however, obtain and distribute most of them. They give or mail the blanks to persons who own livestock and have shown interest in getting better returns. Sometimes an even greater incentive is the satisfaction of having good livestock on the place. Both motives often go together. The county agent then welcomes the opportunity to show every livestock owner why he should use purebred sires. For the time being, he is not concerned about the female stock. The emphasis is on the sires. And the plan includes all kinds from roosters to stallions. The farmer then either sees the county agent or the agent sees him. The county agent is itching to prove that good purebred sires are certain to better the quality of the stock on any farm. He is ready to show, also, that improved stock is the best to raise, the best to sell and the best to breed from. Much of the evidence he has is from farmers in the same county or nearby localities. The Department of Agriculture at Washington and the various agricultural colleges furnish additional evidence if needed.

The enrollment blank calls for a list of the breeding stock a farmer keeps. It also requires his signature to a declaration that henceforth he will use purebred sires only in his breeding operations. There are definitions of purebred, crossbred, grade and scrub animals to prevent misunderstanding. If the farmer wants assistance in the breeding, feeding or care of his stock, he makes a note of that in a space on the blank provided for the purpose. He then returns the blank to the county agent—and that's all he has to do. But in actual practice, he does much more of his own accord.

Before going into that, however, let's see what happens to the blank.

(*turn to page 47*)

This sign is granted to purebred-sire users for display on their farms.

The Wishbone and Backbone

By Dr. Frank Crane

"SO many of us," says Percy Johnston, president of the Chemical National Bank of New York, "get the wishbone where the backbone ought to be." There are two elements to success. One is to want something hard enough. Many are deficient here. They have no dominant desire, no driving ambition, no healthy dissatisfaction. The other element, however, is more often lacking. It is to have sense enough to pay the price for what we want. In other words to do the things necessary in order to obtain what we want. ¶There are, for instance, thousands of young people in the great cities who wish to be artists or musicians or writers, but probably only a few of them are doing every day the hard work necessary to obtain their desire. ¶Everybody wants to be loved, for to have someone love you is a very comfortable and flattering feeling. But how few there are that day by day in every way are trying to render themselves lovable. And if there is anything that requires backbone as well as wishbone it is love. ¶The country is full of soured, disappointed and cynical people who think the world is against them and the fates opposed to them, because they want something or other with all their heart and have a very prominent wishbone indeed. Their trouble is that they do not feel disposed to do the daily unremitting digging which intelligence shows is needed. ¶We all need inspiration, ambition and ideals, but it will do no good for these favoring winds to blow unless we get to work and put up our sails. ¶Somebody called genius the capacity for infinite toil. And that is perhaps the best test of genius. If you want to be a violinist to the extent that you are willing to practice day after day the most grilling exercises, that is one good proof that you have real ability. If you want to such an extent to get on in your business that you apply yourself unremittingly to it, study about it and never neglect it, that is one indication that your backbone is strong enough to balance your wishbone. Goethe drew a distinction between "tendency and talent." The world is full of second-raters with tendencies more or less vigorous. But it is not so full of people who have real talent that has been developed by hard work.

Copyright, 1924, by Dr. Frank Crane

Beware of Buckeye!

By Albert A. Hansen

Purdue University Agricultural Experiment Station

A YEAR ago, several acres of woodland were cleared on the John Sipe farm near Greenfield, Indiana. During the spring of 1924 cattle turned into the newly cleared land became exceedingly ill and the owner was sorely perplexed to ascertain the cause, since no trouble had previously been experienced in that particular woodlot. A veterinarian was consulted, the case was diagnosed as forage poisoning and an investigation revealed the presence of scores of sprouted buckeye stumps, practically all of which showed unmistakable evidence of having been heavily grazed.

The circumstances of buckeye poisoning on the Sipe farm are typical of numerous other cases that have been investigated in all parts of Indiana. Dr. N. W. Elsbury, the attending veterinarian in the Sipe case, stated that the outstanding symptom was the gingerly gait of the forelegs—"as though they were walking on eggs" as one farmer described it. This peculiarity has frequently been mentioned by Indiana farmers in connection with buckeye animals.

BOTH buckeye and horse chestnut, a closely related species, have been under deep suspicion for many years. Millspaugh, a well known investigator of toxic plants, has described the symptoms in cattle, stating that buckeye causes inflammation of the mucuous membrane of both the digestive and respiratory tracts, particularly of the rectum. The result is nausea and colic while the action of the poisonous principle on the brain center causes cerebral confusion and stupefaction. To add to the sins of the buckeye tribe, cases of fatal posioning in children from eating the nuts have been reported.

In the southern states, the ground meal of buckeye nuts has long been used to stupefy fish, a trick that was probably learned from the American Indian, who used both the nuts and the macerated bark of red buckeye as fish poison. It was probably much easier to gather the stupefied, floating fish than to wait patiently with hook and line, or whatever mechanical fishing device Indians used. The Alabama Agricultural Experiment Station checked up on the Indian method by macerating buckeye nuts in a sack and dragging it thru the water. A few minutes later the torpid fish came to the surface, floating on their sides and several died about a half hour later.

Incidentally, the Alabama folks also fed buckeye leaves and flowers to horses, cattle and hogs. One young bull was fed chopped buckeye leaves in mixed feed for several days and at the end of a week, the animal became highly nervous, the pupils dilated and motor paralysis developed. The Alabama experimenters, working with the red buckeye (which is closely related to our common northern species) concluded that the plant is distinctly toxic to cattle, but probably not very dangerous to horses or hogs.

It seems that both foliage and nuts are poisonous. Down in Crawford County in southern Indi-

ana, the farmers formerly hitched their horses in a buckeye grove near a picnic ground, but so many of the animals died from eating buckeye nuts that it is said the place had to be abandoned on this account. This is merely one of many similar yarns Hoosier farmers spin about buckeye poisoning and in view of the experimental evidence, some credence must be placed in these strange tales.

JUDGING from field investigations and reports received, young cattle seem to be most susceptible. The greatest danger from buckeye poisoning appears to be from the

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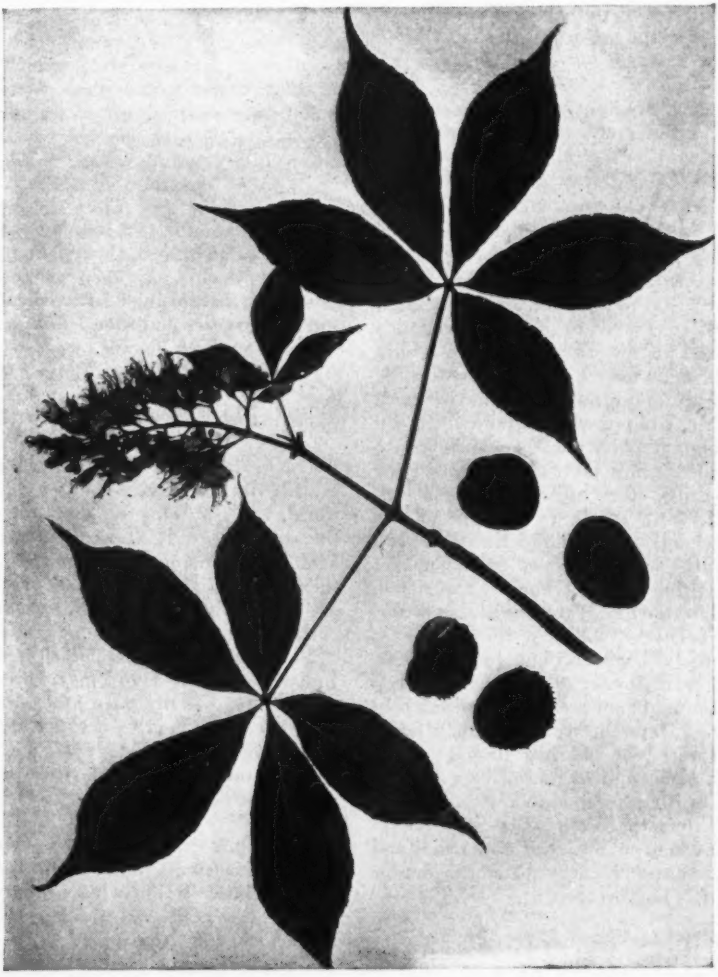


The leaves, nuts and flowers of buckeye are all poisonous. Buckeye leaves are five-parted while the leaves of horse chestnut, which are also poisonous, are usually seven-parted.

Bringing Home *the* Bacon

By W. W. Bathlot
Taos, New Mexico

¶Here is a reminiscence of a New Mexico farmer that is full of humor and not without a point.

WHEN I walk down to the hog pen and view the sleek backs of my three fancy Poland China hogs, it brings to my mind a vivid incident that occurred to me a few years ago here in the Taos country. It also brings a feeling of relief as I view the work of our hustling County Agent, Mr. Knapp, who is gradually pushing the old style Mexican hog into the discard and implanting a good thrifty stock of hogs in its place.

Now, let it be known to my readers that the old time Mexican hog was a boiled-down pocket edition of the Arkansaw razorback, saw tooth hog, and the hazel splitter. He never sold by the pound as many hogs do, but by the year. For instance; a one year old hog brought one dollar; a two year old hog brought two dollars, and a three year old hog brought three dollars, and so on. Every year of its life would add a dollar to its value, the more years a hog could be kept on a diet of pine cones and mountain scenery the more valuable that hog became.

TODAY the Taos country is two hundred years behind any other known portion of the United States. Ten years ago it was four hundred years behind the times. It was ten years ago that I started in to mix cow punching into the farming game. I tried raising a little wheat and a little corn, and then I jumped directly into high finance by investing in a reaper, one of those old fashioned Armstrong machines, where it took muscle combined with a wisp of straw to bind each bundle.

This reaper was a mighty novelty in this out-of-the-way-spot of the world, and you may be sure when the natives saw it at work in my field they were quick to throw away their sickles and pruning hooks and get in line with their bids for wheat cutting with the new whiz machine.

Now, outside of my Spanish and Indian neighbors, Tom Blake, three miles away, was my only American neighbor and Tom, with his ten acres of wheat mixed in with stumps and rocks, was quick to see where I came in as a real little "life saver."

Tom came over to see me. He was a persuasive scoundrel and the confab ended by my leaving my own wheat field and pulling the reaper over into Tom's field.

Well, with my labor, and that of the team, combined with a few minor mishaps, the job set me back about ten dollars I figured. In a

few days Tom appeared ready for a settlement. I was well pleased and held out the glad hand, for in those days a ten dollar bill looked as big as a two year old steer, but nothing fell therein. Instead, Tom's face took on a very melancholy hue and he backed away.

"Look here, Bill," says he, "I have no dinero, not a single peso to my name. Now, how would it suit you to take a hog? My wife has the finest sow in the State of New Mexico and it will find pigs in about two months. Further," he grasped me by the shirt sleeve and looked lovingly deep down into my eyes, "it is time you quit cow punchin' and rustlin' for good and settled down into the hog business. There's big money in hogs and it only takes half an eye to see that you are cut out for a hog raiser."

NOW, hogs were outside of my line of business, but as I had made a tentative venture into farming and then jumped into high finance by purchasing a reaper why not go further and enlarge my business and make money on a grand scale by entering the hog business?

Being a good natured and easy going hombre, Tom's flattery soon had me going. Where I formerly wanted money, I now wanted hogs. Half way afraid that Tom would back down and offer me the money, I closed the deal and accepted the sow in lieu of the wheat cutting.

I relied solely upon Tom's word. I had never seen the sow. Further than that I had no hog pen built into which to put a hog, so I told Tom to bring the sow over in a week or so, for by then I figured that I would be over my rush of work and be ready to put up a nice little pen wherein I could house the nucleus of my coming wealth.

Time rocked on. Thirty days or more had passed. Busy as usual, I had neglected to build the hog pen, but as Tom hadn't mentioned the sow I decided there was plenty of time yet.

One day I had occasion to ride down into the breaks of the Canyon of the Rio Grande after some stray horses. Getting in late and as tired as a rabbit-running hound, I hung up my chaps, pulled off my perspiring socks and hit the hay.

Came a knock at the door. Tom's face appeared in the opening behind an arm upon which hung a lantern.

"In bed, Bill," came his voice. "Brought that sow; where can I put her?"

I started to get up, but Tom's soothing voice once again held me in thrall. "Don't, Bill! you're tired out. She's hefty but I can handle her all right."

I had just put up a square pen, ten feet each way, of peeled aspen poles. It was incomplete since it had no roof and it needed chinking and dobe. It was fully ten feet high and had a door in one side about four feet above the ground. I was building it for a storehouse for my corn.

Happening to think of this, I told Tom to put the sow in this building and close the door. On the morrow I would build a pen to accommodate her ladyship.

Tom's voice again broke the silence. "Say, Bill, I want to ask a favor of you. This is my wife's pet sow, and she thinks the world and all of it. She was almost heart broken and cried like a child when I took it away, but that debt must be paid if it takes the last hoof on the place." Here Tom's voice broke, "Now, promise me that you will be kind to her."

I promised, and Tom closed the door. I smoothed out the husk tick and sorted the nub-ends around so as to fit into the various hollows of my lanky form.

I began to study over the matter, and the longer I studied the meaner I felt. At last I reached over and nudged the wife.

"Say, Mary, It seems a dog-goned

(*turn to page 42*)

There are some interesting facts in this article for anyone who is interested in better grapes.

Potash *on* GRAPES

By L. O. Bonnett

California Experiment Station

SINCE the discovery of immense potash deposits in Germany, a considerable number of experiments have been made with potassic salts in relation to the growth of uncultivated and cultivated plants. The results of these experiments have been satisfactory in the majority of cases, and have manifested themselves by increased yields and a higher quality of the products of the soil. These two important factors of production are markedly influenced by potassic fertilizers, but the cause of this influence has been brought to light lately in experiments carried out in Southern France on the vine. It resides in the particularly healthful action of potash on the chlorophyll of plants.

To throw as much light as possible on the effects of potash on the vine, the soil was studied very carefully. A physical examination of the experimental soil was made, in which coarse and fine sand, clay and humus were determined in both soil and subsoil, and in the fine materials and total dirt. The limestone content of the coarse and fine sand was also analyzed. This physical analysis showed this ground somewhat heavy mechanically and of the type "calcaro-silico-clayey" in the soil, and "calcaro-clayey" in the subsoil. The chemical analysis of the fine dirt per Mil. gave the following results: (*a*) in the soil, Nitrogen 1.04, Phosphoric acid 1.39, Potash 2.90. (*b*) in the subsoil, Nitrogen 0.53, Phosphoric acid 0.82, Potash 2.90. Chemically this soil is said to be medium rich in Nitrogen and Phosphoric acid, and rich in Potash. This last point is particularly interesting in this experiment.

The variety of grape under test is the Grand Noir, a heavy bearer, the grapes of which are sometimes low in quality. To make this factor of quality vary widely, the vines were pruned so as to make their production vary from a light to a very heavy crop. Two plots were so treated, one serving as a check and the other receiving per row of vines doses of sylvinite, a potash fertilizer varying from 3 to 16 ounces per vine.

The application of the fertilizer was made early in the Winter, and in a hole dug around each vine. A heavy rainfall diffused the fertilizer through the ground, as an analysis showed an even distribution of chlorin through the soil.

IN the month of July very interesting observations could be made in the plots. Those in which no potash was used, showed vines with a suffering foliage. The margin of leaves turned reddish with a tint of yellow, while the bunches of

(*turn to page 42*)

Experiment on Seedless Raisin Grapes, by F. C. Lewis, Fowler, Calif.

Plot No. 2. Fertilized with complete fertilizer including sulfate of potash.

Plot No. 3. Fertilized with incomplete fertilizer containing no potash.

Apple Storage

By W. R. Cole
Massachusetts Agricultural College

Number I

THE building cost complete was $3,894.91. This cost was for the following items:

Lumber for frame, etc., 7,800 feet, (cut on farm)	$240.00
Lumber purchased, 11,986 feet	675.47
Windows, Doors, Insulation Material	123.28
Roofing, 34 squares	110.50
Cement, 376 bags	303.68
Tile drains	31.16
Miscellaneous material	249.94
Cartage of cement, etc	18.35
Carpenter and Mason labor	1,698.45
Filling, team and men	94.08
Wiring, labor and material	100.00
Excavating and Painting	250.00
	$3,894.91

These figures indicate a per bushel cost of $0.55 on the rated capacity of 7,000 bushels.

The life of such a building may be conservatively estimated as twenty-five years. Allowing 6% interest, 1½% insurance, 1½% taxes, 5% depreciation and repairs, will give 14% or $545.00 annual carrying charges. This indicates a total carrying cost of $13,625.00 for twenty-five years.

Seven thousand bushels should pack out six thousand three hundred bushels (shrinkage 10%).

7,000 bushels at average harvest price (.82)	$5,740.00
6,300 bushels at average selling price (1.25)	7,875.00
Gain	$2,135.00

Assuming ten capacity crops in twenty-five years will give a gain of $21,350 against a cost of ownership of $13,625.

Number II

The cost was $647.00 and is itemized below:

Labor, cleaning out cellar hole.		$100.00
Labor, Masonry	$75.00	
Supplies	50.00	$125.00
Lumber	$247.00	
Roofing Paper	60.00	
Sundries	25.00	
Carpenter Labor	90.00	422.00
		$647.00

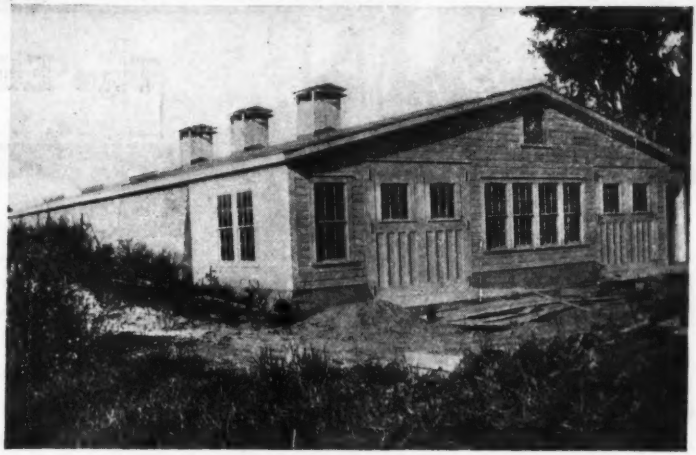
These figures indicate a per bushel cost of 18½ cents on the rated capacity of 3,500 bushels.

The life of such a cellar may be estimated at twenty-five years. Allowing 6% interest on capital invested, 1½% insurance, 1½% taxes, 5% depreciation and repairs will give 14% or $91.00 annual carrying charges. This would indicate a total carrying charge of $2,275.00 for twenty-five years.

Three thousand five hundred bushels should pack out 3,150 bushels (shrinkage 10%).

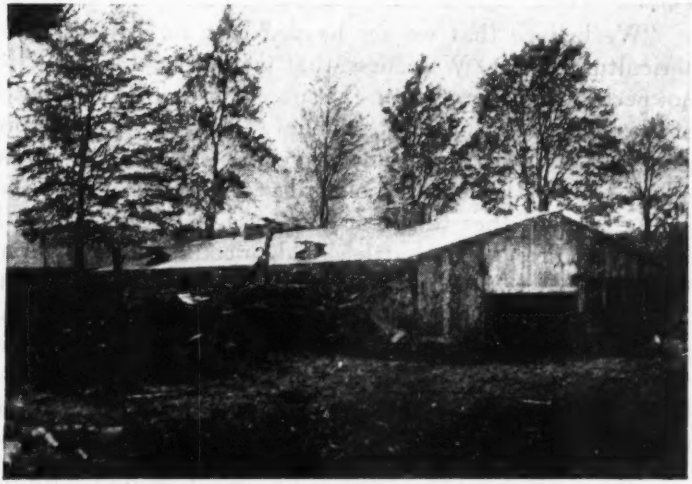
3,500 bushels — average harvest price (.82)	$2,870.00
3,150 bushels — average selling price (1.25)	3,937.50
Gain	$1,067.50

Assuming a total of ten capacity crops in twenty-five years will give a gain of $1,067.50 against a cost of ownership of $2,275.



Apple Storage and Packing Room—Number I

This storage cellar and packing room was built in 1921 and was constructed by day labor and the regular farm help. It is 40f x 70f, 8f posted. The packing room is 40f x 12f and the storage room 40f x 56f with a capacity of 7,000 bushels.



Apple Storage and Packing Room—Number II

This storage is a renovated cellar hole which once had a house over it. It is about 26f x 52f in size and 7f high, and has a capacity of 3,500 bushels. The reconstruction work was done in the fall of 1920 and, so far as possible, the farm help was used in building it. Part of the lumber was home produced and charged into the cost at timber prices plus milling.

POLITICS CANNOT STOP PROGRESS

Just as I was on the point of writing these pages I picked up the latest issue of *"The Breeders' Gazette,"*—a paper for which I have the heartiest admiration and respect. On its editorial pages I found such a perfect expression of my own sentiments that I am going to reprint it and let it take the place of what I intended to say on the subject.

"The Gazette will not be drawn into partisan politics during the pending Presidential campaign. Among our readers are numbered supporters of each candidate, and they do not take this journal for suggestions as to how they should cast their votes next November. * * * * * *

"We believe that we are headed now for better days in agricultural lines. We believe that the future of farming does not necessarily depend upon the success or failure of either one of the contestants for the Presidency. We have enjoyed prosperity at various times, and have also endured privations, under each of the leading political parties. We do not share in the thought that third-party success or complications this year in the Presidential battle would, or could, affect materially the recovery now in progress. In brief, we hold that the operation of unchanging economic laws is superior to any political mutation. It is only the professional politicians who would like to have us all believe that salvation lies only in their particular way. It is not so. All history proves that it is not.

"We recommend that farmers proceed, therefore, with their business operations quite regardless of who is or who is not to be chosen to occupy the White House for the ensuing four years. That is what we propose to do, and we are not worrying the least as to what the future has in store. We have suffered our full share during the great deflation now passing

and contemplate the days to come with serene confidence in the recuperative powers of this country and the common sense of its people.

"To the young and inexperienced in the exercise of their voting franchise we have just this word of admonition: remember always that the stump orator, the average spellbinder you will hear so often during the next two months, is vastly more interested in getting himself and his crowd into office than he is in the things he grows so excited about while denouncing the 'opposition.' He who brags too much of his own superior honesty or capacity, and especially of his sympathy for the 'dear farmer,' will commonly bear watching. That's all."

MANY THANKS Since this issue of BETTER CROPS starts off our second year of existence, I might seize the opportunity to appraise our accomplishments during the past year.

I prefer, however, to leave this to our readers. Our record is all in the contents of our first two volumes and nothing I can say would add or subtract from it one whit.

I am acutely conscious of the fact that we are still far from the ideals I have in mind but I believe we are headed in the right direction and with your continued interest and help, I am sure we shall make great progress during the coming year. Let me just take this occasion to thank all of you who have encouraged us by your contributions, your criticisms or your friendly interest,

Jeff McDermid

WHERE FERTILIZER EXPERIMENTS ARE CONDUCTED IN ALABAMA
JACKSONBURG
FLORENCE
SHEFFIELD
ATHENS
HUNTSVILLE
CHASE
BELLE FINA
HARTSELLE
HACKELBURG
GILBERTVILLE
COLLINSVILLE
CROSSVILLE
CEDAR BLUFF
CULLMAN
ALABAMA CITY
WELLINGTON
JACKSONVILLE
ALEXANDRIA
DE KALB
NORTH PORT
TUSCALOOSA
SYLACAUGA
FOSTERS
FIVE POINTS
LAFAYETTE
CUSSETA
WAVERLY
OPELIKA
UNIONTOWN
PRATTVILLE
MONTGOMERY
NOTASULGA
AUBURN
SMITH STATION
SHOWDOWN
CLAYTON
EUFAULA
GREENVILLE
BOLLING
SCYRENE
GROVE HILL
ELLEN
SALITPA
JACKSON
ABBEVILLE
HEADLAND
COLUMBIA
DOTHAN
BREWTON
CANOE
ATMORE
ROBERTSDALE
STATE EXPERIMENT STATION
CANEBRAKE SUB-STATION
FIELD TESTS - RATE OF APPLICATION - COTTON
FIELD TESTS - LIME AND PHOS. ACID - LEGUMES IN ROTATION.
FIELD TESTS - FERTILIZER MATERIALS WITH WINTER LEGUMES
FIELD TESTS - SOURCES OF PHOSPHORUS WITH LEGUMES
FIELD TESTS - FERTILIZER MATERIALS ON VARIETIES OF LEGUMES
FIELD TESTS - FERTILIZER MATERIALS - COTTON AND CORN IN ROTATION
FIELD TESTS - PECANS.
PREPARED BY DAVID D. LONG, SOIL SPECIALIST, SOIL IMPROVEMENT COMMITTEE, SOUTHERN FERTILIZER ASSOCIATION.

(This is the seventh of the maps prepared by Mr. David D. Long of the Southern Soil Improvement Committee. The eighth and last will appear next month.

ALABAMA

State Experiment Station — Auburn.

Kinds and quantities of fertilizers for cotton, corn and oats, singly and in rotation. Sources of nitrogen and phosphoric acid.

Canebrake Sub-Station — Uniontown.

Rates of application for cotton.

Field Tests — Huntsville (4), Fosters, Wellington, Tuscaloosa (5), Athens (3), Hartselle (3), Scyrene Chase, Smith's Station, Columbia, Waverly, Dothan (2), Abbeville, Jacksonville, Grove Hill, Albertville (3), Salitpa, Headland (2), Allen, Opelika, Newville, Alexandria, Haleburg, Madison, DeArmanville and Belle Mina.

(*Numbers in parenthesis indicates number of tests conducted in the vicinity of the town.*)

Tests on the rate of application of mixtures of acid phosphate, nitrate of soda and muriate of potash for cotton.

Field Tests—Albertville, Jackson and Atmore.

Mixtures of acid phosphate, nitrate of soda and muriate of potash for cotton and corn in rotation with oats and legumes.

Field Tests—Hackleburg, Cusseta, Sylacauga, Prattville and Atmore.

Rotation experiments with and without legumes—fertilizing legumes in the rotation—time of application of fertilizer materials to different crops in the rotation.

Field Tests — Eufaula, Five Points, Lafayette, Collinsville, Montgomery, Florence, Alabama - City, Athens (2), Huntsville, Jacksonburg, Brewton (2), Sheffield, Prattville (4), Clayton, Crossville, Cedar Bluff, Cusseta, Canoe and Cullman.

Phosphoric acid, potash and lime effects on legumes.

Field Tests—Cullman, Athens, Prattville and Bolling.

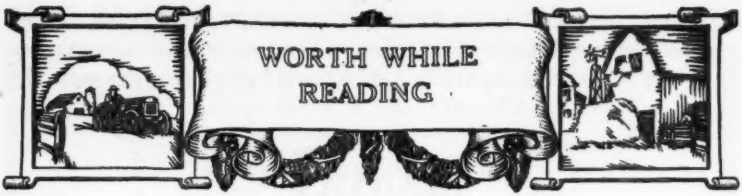
Sources of phosphorus for winter legumes.

Field Tests—Hartselle, Greenville, Snowdoun and Notasulga.

Effects of different combination of lime, potash and phosphoric acid on varieties of medics and vetches.

Field Tests—Robertsdale.

Kind of complete fertilizers for pecans.



Managing the Soil

"Soil Management" by Firman E. Bear. Published by John Wiley & Sons, Inc., New York. Price

This book is one of the "Wiley Agricultural Series" edited by Dr. J. G. Lipman. It has been written for use in the required Soil course in Agricultural colleges for students who have some knowledge of Chemistry, Botany, Geology and Physics.

The book stresses the application of the above named sciences to soils only so far as they are of value in "planning constructive systems of soil management." Consequently, much of the soil physics and geological information contained in most soil text books has been condensed or omitted. The soil fertility facts are given much greater imporatnce than are the other phases of the subject. Professor Bear's idea is that since the first or required course in soils touches a great number of students who will never take another soils course that it should be made as practical as possible. He believes that the more advanced ideas and purely scientific information should be presented in subsequent courses. This method is directly opposite the method that is being used in a number of institutions where the subject of soils is fast coming to be considered a separate science. Where this idea prevails the first course is designed to give students a thorough grounding in the subject as a whole with little attention being given to the practical applications. In this case the application of the principles obtained in this first course must necessarily be given in following courses.

Some of the striking things about the book are: the clear concise style, the great number of tables (102 in all) used in proving points, and the arrangement. It is divided into five main parts as follows: A. Requirements of crops; B. Characteristics of soils; C. Utilizing soil resources; D. Conserving soil resources; and E. Supplementing soil resources. There are several chapters under each division. A short list of well selected references is given at the end of each chapter. These references are for the most part text books and bulletins which should be found even in the smaller agricultural libraries.

Part A. Requirements of Crops. Considers briefly those factors effecting the growth of crops, and the nitrogen, mineral, and water requirements.

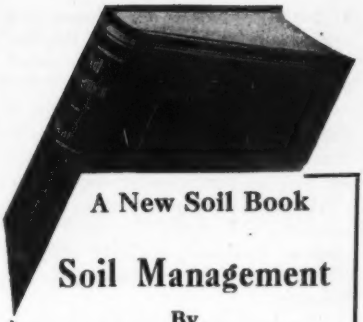
Part B. Characteristics of soils. This part discusses very briefly the origin, classification, and chemical composition of soils. Here also are chapters dealing with some of the soil biological processes, physical properties of soils, soil water, soil air, and soil solution. This division considers all of these questions in 51 pages. Under the chapter heading Soil Solution the author mentions many of the causes of acid soils and the effect of lime. Alkali soils are also considered here as well as the effect of fertilizer salts on the soil solution.

Part C. Utilizing Soil Resources. Consists of four chapters: Drainage, Tillage, Organic Matter, and Crop

Rotation. The drainage question is discussed from the soil and crop viewpoint without touching on the engineering phases of the subject. The latest information concerning the depths of plowing, effect of cultivating, frequency of cultivation, etc., are brought out in the chapter on tillage. This chapter differs from similar chapters in many other text books in the limited description of tillage tools. The chapter dealing with crop rotations shows clearly the importance of growing crops in a rotation and the fallacy of depending entirely on crop rotations alone to maintain the fertility of the soil. The crop sequence in the rotation is considered as well as the effect of one crop on another.

Part D. Conserving Soil Resources. In the chapter entitled the "Conservation of Soil Nitrogen" the importance of both the symbiotic and non-symbiotic bacteria are discussed as well as the loss of nitrogen in drainage water. The "Mineral Economy in Soils" is another chapter heading. The chapter on "Limestone Economy in Soils" mentions many of the more recent lime problems. The different response of crops to lime as well as the importance of lime to the nitrogen question. The acid agricultural possibilities are discussed. The chapter "Soil Sanitation" again touches on some of the toxic questions in their relation to crops and soils. Some of the questions dealing with parasitic organisms and their control are also mentioned.

Part E. Supplementary Soil Resources. Under this heading those phases of soil management dealing with the application of lime and fertilizer are discussed. The sources and differences in effects on crops of the different calcium, nitrogen, phosphorus, and potash carriers are pointed out. The new Thiocyanate Soil Acidity test is explained. Truog's as well as Bauer's reasons why some plants are able to use raw rock phosphate to a better



A New Soil Book

Soil Management

By

FIRMAN E. BEAR

Head of the Department of Soils
Ohio State University

THIS volume presents the essential facts and principles involved in the planning of constructive systems of soil management, and in increasing the productive capacities of soils. The author assumes that the reader has had courses in Chemistry, Botany, Geology, and Physics, and, that he is familiar with the ordinary vocabularies of these sciences.

The subject-matter covers the following: Requirements of Crops, The Characteristics of Soils, Utilizing Soil Resources, Conserving Soil Resources, Liming Materials and Fertilizers.

268 pages. 6 x 9. 35 figures. 1 colored map, and a color chart for Thiocyanate Soil Acidity Test. Cloth, $2.00.

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advantage than other plants, are explained. The effect of sulphur and rock phosphate when applied together is considered.

In the chapter "The Selection of Fertilizers" the importance of the climate factor is shown very clearly as well as many other factors including the economic phases. Here also is a list of the standard commercial fertilizer analysis adopted by the various sections of the country.

The last chapter in the book is entitled the Application of Fertilizers and brings out very clearly many of the latest ideas and questions in regard to time and application of fertilizers.

Those persons engaged in directing farm operations or in advising farmers will find this one of the most valuable reference books obtainable. The chapters dealing with lime and fertilizers are especially interesting since they sum up in few words the most recent practical information on these subjects.

AUSTIN L. PATRICK,
Penn State College.

Livestock Sanitation by Dr. W. H. Dalrymple, Louisiana State University. Published by The Gladney Press, Baton Rouge, La. Price $2.00.

I consider that Dr. W. H. Dalrymple's popular little work, "Livestock Sanitation," has made its appearance at a most opportune time on a subject of ever increasing importance to the livestock interests of the country. Written in such popular language, the book is of value, not only to the farmer-stockman, but to those engaged in extension work who are endeavoring to aid the farmer, through intelligent sanitation, in the protection and better development of his farm animals. An intelligent study of the contents of this work will arm the extension people with facts regarding animal diseases and their prevention, and tend to eliminate many of the fallacies and superstitions concerning them, which, unfortunately, many otherwise enlightened farmers still adhere to.

Realizing the value of the book, from the above points of view, the farm demonstration forces of Louisiana have already provided themselves with copies, and are very sanguine as to the results of its use in their daily routine of work among the farmers and stockowners of the State.

The book is clearly printed, appropriately illustrated, and handsomely bound, and the language is such that the average layman can easily understand it—*C. E. Woolman, District Agent, Louisiana Extension Service.*

Other Noteworthy Publications

Fifteen Years of Field Experiments with Manure, Fertilizers and Lime on Sassafras Silt Loam Soil by George L. Schuster, University of Delaware Agricultural Experiment Station, Bulletin, No. 137, June, 1914.

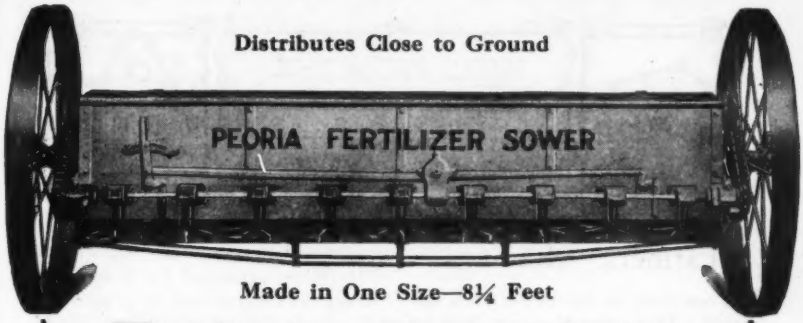
Mileposts on the Road to Market by H. L. Russell and K. L. Hatch annual report of the Extension Service, University of Wisconsin, Madison, Circular 167, January, 1924.

The Organization and Direction of Clothing Clubs by Harriet M. Phillips, Fairie Mallory and Margia Hough, University of Illinois Experiment Station, Urbana, Ill. Circular No. 280, April, 1924.

Care and Management of Baby Chicks by Willard C. Thompson and Norman R. Mehrhof, New Jersey Agricultural Experiment Stations, New Brunswick, N. J. March, 1924.

The Value of Mineral Supplements in Swine Feeding by John B. Rice, University of Illinois Agricultural College and Experiment Station, Urbana, Ill. Bulletin No. 250, May, 1924.

Distributes Close to Ground



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The use of fertilizer has become a necessity to modern agriculture. Farmers of the Eastern States have realized for years the profit to be made from the use of fertilizers, and now the Western farmer is rapidly learning to look upon fertilizer as an "investment" rather than an "expense."

The American farmer is learning that by taking everything from his soil and returning nothing, he is headed straight for agricultural bankruptcy, and that every dollar spent on good fertilization is better invested than a dollar in the savings bank.

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There is no distributor on the market that can equal the New Peoria. It took years of actual experimenting in the field to finally produce this high-grade distributor. It bears little resemblance to the makeshift box-wheels-and-axle contrivances commonly found on the market.

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Farmers' Meetings

Your story in BETTER CROPS, entitled, "Have the Farmers Met to Death?" brings to my mind some experiences which I had the past winter in farmers' meetings. It seems that in the past a great many agents have depended on the extension specialist to put on the real stuff for them in 'their farmers' meetings, without much regard for local color. Now, do not understand me to say that I do not think the specialist has a place, for such is not the case but, if the agent in the county who in on the ground does not know what should be attempted, it is the height of folly to expect a man who just arrived or at least has not been on the ground more than 24 hours to know the real need of a community.

Let's get back to the story which is, as follows: In a community where local leadership is good, where men are trying to put their farms on a business basis we have every reason to expect that a meeting will be well attended. But here is what happened in one instance, due to some wrong ideas put out by people who had attended a meeting in the adjoining community.

In the community, (we'll call it Float,) a meeting was called by the local chairman and advertised by the county agent as well. In this meeting the agent, who in this case was none other than the writer, let the extension specialist loose as a free lance, to talk on any thing as he saw fit. Unfortunately it was flies. Most anything would have been better, but flies was the subject and so we had flies. One week later the community adjoining, known as Mt. Hope arranged for a meeting which was advertised as a meeting at which the county agent would discuss the place of the Soy Bean in the crop rotation.

Was there a good number of farmers? I'll say there was. Some came to scoff but remained to talk Soys. One old farmer who did not believe in County Agents, tried to start off at a tangent and the crowd howled him down. The agent exhausted his subject and himself but the men where not through. Where could they get Soy bean seed? What, when, and a dozen other things had to be discussed. The meeting adjourned officially at eleven but it was twelve thirty when the crowd finally left.

A second meeting was held one month later. Double the number were present. I was anxious to find out why. The answer was, "You had the facts the other time and gave us what we wanted. Come back again when you want to and we'll be here strong." was what the men said and I know that such will be the case.

Have farmers met to death? I hardly think so, if those who meet with them have the real stuff to hand them when they get together. If it is hot air or stuff such as a county agent does not like to have poked at him, he might just as well stay at home. — *J. M. Goodwin, Effingham, Kansas.*

Bulletin Rack

The problem of a means of displaying State and Government bulletins in the County Agent's

office has long been a big problem. Many contrivances have been tried and suggested but all have their drawbacks.

The accompanying illustration shows bulletins displayed on a rack, 51 inches wide, 74 inches long, which rack holds 80 individual bulletins. It consists of ten cross bars, 8 inches from top to top, in which are driven, Number 16 finishing nails, placing 4¼ inches between nails from which the bulletin hangs, and 2 inches between bulletins.

The nails are set at an angle, so the bulletin hangs perpendicular to them while the lower edge of the bulletin rests on the heads of the next row of nails.

The holes were made in the bulletins with a two-eye punch which has a trade name of "Marvel" No. 63.

The cross bars are of hard wood 1 inch thick and 3 inches wide. These are nailed to three upright strips of the same material, 1 inch by 2½ inches.

The wind does not interfere with these bulletins. They can easily be dusted off without disarranging them and there is no danger of piling one on top of another in examining the bulletins because they can be plainly seen without moving. To remove from the rack, it is simply necessary to hold up the upper row of bulletins while the one you want is lifted.

We found this a very satisfactory means of displaying bulletins and will gladly furnish anyone more detailed information. This rack was constructed and placed on the wall by a lumber company for $3.50.
—T. C. Cravens, Martinsville, Ind.

They Hiked 70 Miles

Three boys ranging from 13 to 16 walked 70 miles to attend a Junior Agricultural Club Camp at Oneida, Clay County a few days ago. The writer visited the Pine Mountain Settlement School a few weeks ago for one afternoon and night, and made a short talk at breakfast describing a "Day at Camp," and it must have aroused the boys for in a little while we were asked if some of the boys could attend, and we were glad to welcome them into it.

They started on Friday, July 11th, and arrived at Oneida, Clay County, Sunday afternoon. They had walked most all the way barefooted. Not a person charged them a bill on the way. These boys enrolled Monday evening with 115 other boys and girls from Clay and Leslie Counties. The first evening it was learned that they were in the Camp and the method of getting there, and so the speaker called them up front, and commended them for their interest, determination and pluck. They made good records, two of them happened to be in my group, and so they won one silver dollar each. We believe the balance of power is in the hands of Rural Kentucky, and there is no better way of reaching them than through the Extension Force of the University, with its corps of County Agents, Specialists and Field Workers.

Miss Petit and her force of workers are doing a most wonderful work in developing a better citizenship in and about Pine Mountain.
—T. L. Britton, Hyden, Kentucky.

Potash on Grapes

(*From page 28*)

grapes were badly sunburnt after a hot windstorm. In the fertilized plots the foliage was of a healthy green color, and the bunches were not affected by the hot wind. Marks given to express the condition of health of the foliage were as follows: 5 to 3 in the plots with potash and 1.5 for the plots without potash.

The results on the crop were not less interesting than the above. They are contained in the following table:

Without Potash			With Potash		
No. of Buds	Yield Per Vine	Density of Juice	No. of Buds	Yield Per Vine	Density of Juice
	lbs.			lbs.	
4	3.3	1.053	4	5.0	1.068
8	3.2	1.057	8	6.1	1.064
12	4.2	1.055	12	9.4	1.058
16	6.4	1.047	16	8.5	1.059
32	11.8	1.040	32	9.7	1.052
40	7.7	1.047	40	9.2	1.059

Check vines produced according to their pruning from 3 to 11 pounds of grapes each. Those bearing heavily gave grapes low in sugar and high in acid, or of very poor quality. This was due to the presence of green and sunburnt berries in the bunches of grapes. Fertilized vines gave 5 to 10 pounds of grapes, all of which were of better quality than the best of check vines (See table.) In other words for the same quality of grapes the yield was almost trebled. As an average of all plots the potash fertilization has increased the production 60 per cent, with a slight increase in quality.

After the picking of the crop the foliage presented the same differences as those noted in July.

From these experiments, it results that potash gives high returns in soils which are considered rich in that element. It demonstrates that it is also an element of health for the chlorophyll of plants. This result naturally explains the remarkable effects of potash on the yield of vines and on the quality of their crop.

Bringing Home the Bacon

(*From page 27*)

shame to take that hog away from that poor woman, doesn't it?"

"Go to sleep, Old Man," spoke up Mary. "I believe Tom's story is all bunk, and his wife doesn't figure in the deal at all."

Well, that kind of eased my conscience, so to speak, and I was soon in the land of dreams.

NEXT morning I wormed into my clothes and stepped out on the porch. I happened to look over in the direction of that ten foot high building of slick aspen logs, and there, perched right on the top log, was the darndest monstrosity that human eyes ever dwelt upon.

The thing was five feet long and a foot high. It was so thin that I could plainly see the glint of the morning sun shining through its hide and penetrating the long scraggly bristles on its sides. A mass of bristling red hair covered a long peaked head from which a snout protruded; both head and

snout seemed to take in half or more of the critter's body, in so much that it seemed to have the effect of being over balanced, and its hind feet seemed to stand in air above the top log.

I gazed in open mouth amaze. A grunt, and then I knew what it was. "Oh, Mary," I called, "come ....."

I didn't finish for that caricature of Satan gave another grunt and a flying jump that carried it fully twenty feet away from the pen and, when it lit, it lit running.

I got her direction and then made a quick double shuffle for the stable and threw the saddle on Bess and grabbed my rope.

Now, Bess, in my estimation was the best little cow horse on the range, but when we got started I soon saw that she had her work cut out for her in advance. That sow was sure making it hell bent for home and mother. She may have been a pet, but she was some little sprinter with it.

One mile and she was going as strong as ever, while Bess seemed to be weakening a trifle. Bess, then started in to get her second wind and the pet starts in to weaken. At the end of the second mile I was closing in.

I came within roping distance and made a flying throw. True to aim the noose went over her head, but it didn't stay there. She slithered through it clear to her hind legs and there it closed down and held her fast. Bess steadied while I got down and hog tied that pet sow until she hardly had room for a squeal.

I hung that thing over the saddle horn and rode in home. I built a small pen out of logs, fastened the corners securely with wire and tied the roof down in the same manner.

Into it went that pet sow. Then I began to move the corn in her direction. I don't know how much I fed her, but I do know that she could gobble up the corn about as fast as I could shuck and bring it in from the field.

At the end of two months I decided the task was as near complete as mortal man could make it. I had put all of ten pounds of flesh on that scraggley frame. From a thirty pound shoat I had built up a forty pound hog.

I found a market. I sold her to the local butcher. I received the magnificent price of four dollars for my wheat cutting job and the corn I had fed her, but I was thankful, that this ended the sow and at least a part of my troubles.

No, Tom never mentions it either in or out of my hearing. Sometimes a good joke is better left unsaid, especially when a heavy fist hangs ready to be galvanized into action. For peculiar reasons I do not mention it around here so that you can notice it any. My wife sometimes gets unruly and drags the carcass to the surface, and then I softly and tenderly make my way out of sight and hearing.

I am thankful, yes very thankful that the old breed of Mexican hogs is fast disappearing and that hogs are now selling by the pound instead of by the year.

As dull as I am I can see a vast difference between these three sleek Poland Chinas in the pen and Tom's wife's pet of ten years ago. I have also learned this bit of wisdom and I pass it over to my readers; if you must buy hogs by the year never pay ten dollars for a ten year old hog, but rather pay ten dollars for a yearling.

In next month's issue of BETTER CROPS, *there will be an article by C. J. Brand, Consulting Specialist in Marketing of the U. S. Department of Agriculture. It deals with the consumers' cooperative movement and is full of meaty information. A number of other unusual features. Watch for them!*

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Name.....

P. O.....

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Name.....

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State.....

Name.....

P. O.....

State.....

Name.....

P. O.....

State.....

Tear this page out and mail it to me today.

Livestock Breeding

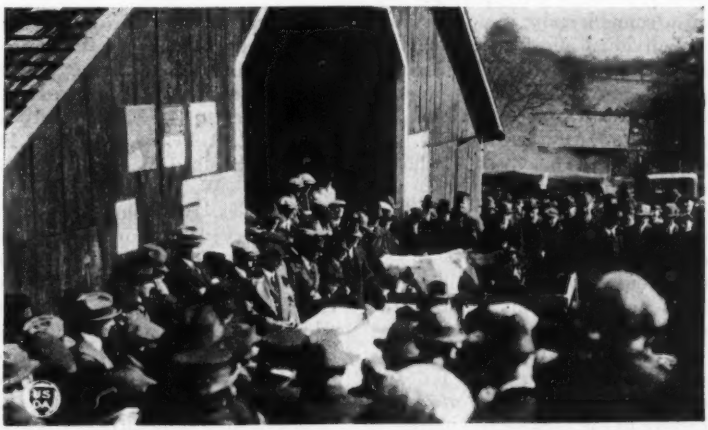
(*From page 22*)

The county agent looks it over carefully and makes sure the "red tape" —which really is very short—is all there, then he sends it along either to his State extension director or directly to Washington according to a plan previously agreed upon. The Federal and State offices see that the farmer gets all the information he asked for; that goes to him direct. He also gets a nicely lithographed barn sign "Purebred Sires Exclusively Used On This Farm," and a numbered certificate showing his participation in the nation-wide drive to put better livestock on American farms.

No exceptions are made regarding the policy of using purebred sires. Some persons using purebred males for only part of their stock have made application for enrollment, but such an illogical breeding system is not recognized. On the other hand, one farmer was enrolled who expressed his desire to participate in the campaign but would not personally sign the blank. "This man is all right," the county agent explained in reporting the circumstances, "but it is against his policy to sign anything. He is meeting all the requirements and wishes to join the better-sires work." Believing that a man who was that conservative, and yet an earnest believer in good stock, would help in the campaign, the department enrolled him on the county agent's recommendation.

So much for the mechanical details of conducting the work which, because of its simplicity, runs with almost no friction and at negligible expense. In passing comment, I may add that the cost to the U. S. Department of Agriculture of conducting the better-sires campaign has averaged only about a thousand dollars a year or about the value of a high-class bull. The results are naturally the basis on which the reader will decide whether the work described is of any real interest or use to him.

In the next issue of BETTER CROPS *Mr. Burch will tell about the results of the "Better-Sires — Better-Stock" campaign.*



Mock trial of a scrub bull before a jury of farmers. The verdict was "Guilty."

The Way to Better Profits

(*From page 19*)

farm in the corn belt on which a good system of crop rotation was practiced, one-half being in corn each year, and where provision was made for full fertility treatment, the 160 acres in corn yielding the crop obtained at the Illinois Experiment Station, would pay for raising the crop, harvesting and marketing, maintenance of the soil fertility, taxes on the land and 5 per cent interest on the investment in land at $300.00 per acre and besides furnish a labor income of $2,929.60 for the farmer's supervision!

THE two big problems confronting the American farmer at the present time are (*1*) the reduction of the cost of production of his finished product whether it be wheat, corn, butter, milk, beef or mutton, and (*2*) the successful merchandising of his manufactured product. The solution of the second problem is a complicated one and must be solved by the united farmers working together as a group through cooperative marketing or otherwise The solution of the first problem is more simple and must come largely if not entirely by individual effort on the part of the farmer himself. The successful farmer of today must produce better than the average of his community or the farmers in his type of farming. The farmer who is content with average yield and average results will in good times of high prices make a little money and may usually "get by" with an indifferent living. In times of stress such as prevailed during the agricultural depression of the past three years he will be in a serious condition or perhaps will fail and move to town. He is *always a liability* to the agricultural industry. His farm products, produced without profit to himself, simply add to the sum total available for consumption and thus assist materially in reducing prices offered to producers in general. The industry would be better off without him.

The progressive farmer will not be content with the average yield of crops. He will produce *better crops*. He must do this by better methods of cultivation than the average receive, by the use of better seed than the average use, and above all, by paying more attention to the productive quality of his soil by the judicious use of lime, manure, and commercial plant food. The solution of the farmer's problem of today will be found largely in the production of larger yields per acre of high quality crops, produced at a low unit of cost, brought about largely by the use of better seed and more intelligent attention to soil fertility problems.

30 County Agents Camp at U.S.D.A.

(*From page 17*)

Lawrence; L. H. Barnes, Lake; H. H. Lett, Daviess; H. E. Ackerson, Carroll; H. D. Van Matre, Rush; L. E. Yeager, Ripley; E. L. Hawk, Scott; L. C. McIntosh, Benton; R. R. Fraser, White; H. D. Jackson, Shelby; W. F. Burbank, Allen; H. W. Schroeder, Grant; S. R. Miles, Bartholomew; G. R. Scott, Perry; J. L. Morrow, Dubois; J. R. Meeks, Parks; O. H. McNary, Putnam; O. B. Riggs, Vermillion; H. E. Abbott, Clay County. In addition the party was accompanied by R. E. Eckert, superintendent of schools of Dubois County; Vern Tapp, teacher, Johnson County; and James Wisby, agricultural student, Morgan County.

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Meridian—
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American Agricultural Chem. Co.
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Bound Brook—
Nitrate Agencies Co.

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American Agricultural Chem. Co.
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New York—
American Agricultural Chem. Co.
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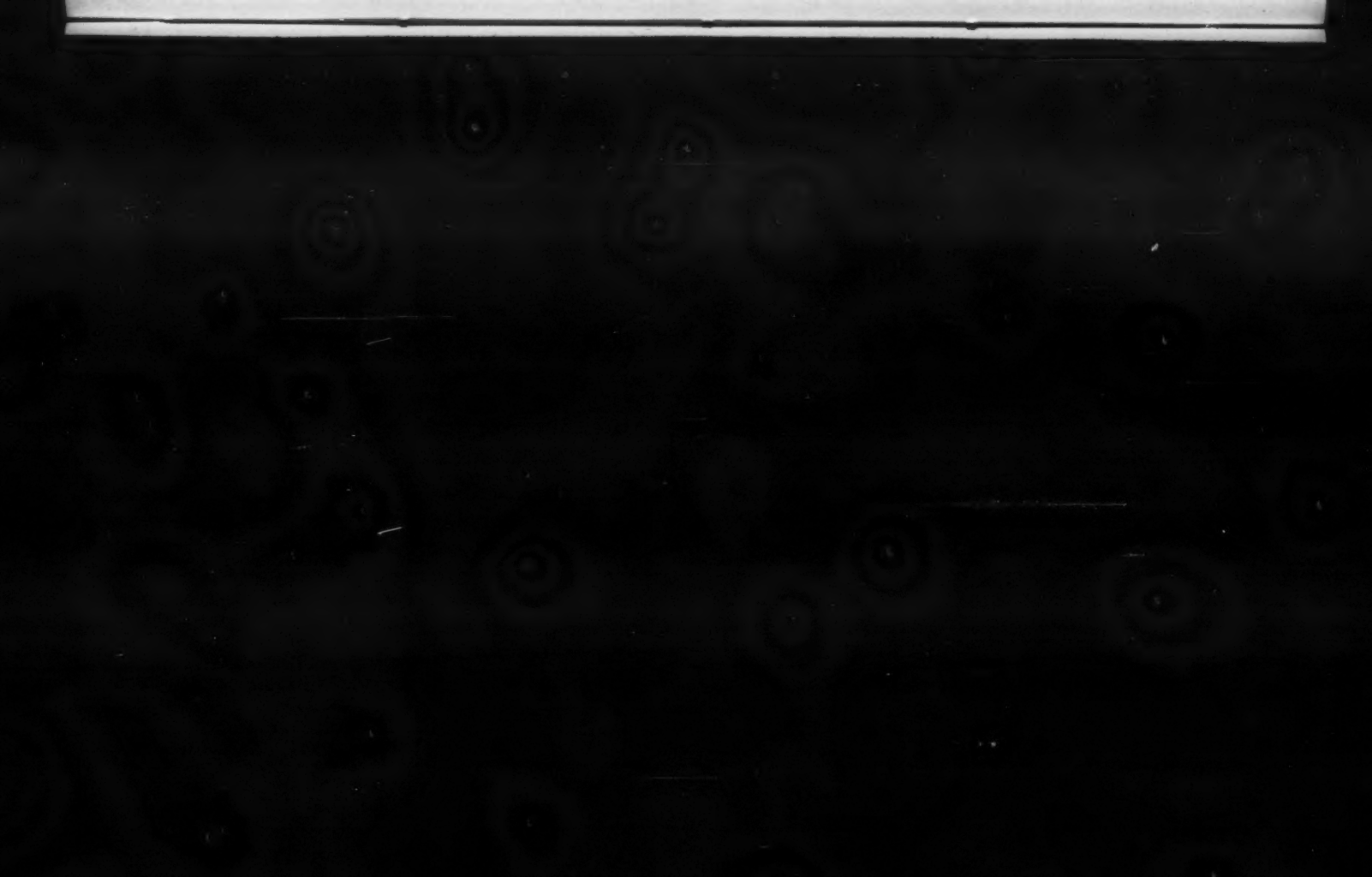


The Readjustment Period

(*From page 16*)

below pre-war level. Then came grim realization of what a post-war period means. Things grew worse, if anything, during 1921. Of course readjustments in farming were inevitable.

The Cotton Belt met the situation with a drastic curtailment of production and with such shifts to corn, peanuts, sweet potatoes, tobacco and other crops as it could manage hurriedly. The boll weevil also stepped in and took such toll of the 1921 and 1922 cotton crops as to make a revived textile industry presently sit up and rub its eyes at the magic vanishing of surplus raw cotton stocks. So cotton prices went up again and the Cotton Belt edged its way west and northward seeking to escape the deadly weevil.

The Corn Belt was blessed with bumper yields of corn in 1920 and 1921. So by the fall of 1921 corn was literally cheap enough to burn. The logical thing was to carry over all the corn possible on the hoof, especially since hog prices had braced up somewhat by the spring of 1922. Consequently. the next chapter in the story was a crop of pigs that broke the records. Thus the great corn crops of 1921 and 1922 went squealing their way to market. Indeed, by last year the pigs-is-pigs business had reached such proportions as to bid 1923 corn prices sharply upward—a fictitious gain for the Corn Belt as a whole. The record marketings from last year's pig crops brought producers some $13,000,000 less than the smaller runs of the previous year.

In a nutshell, the Corn Belt's readjustment has been a major production swing from corn to hogs. Its present position is one of fairly good balance between those two basic enterprises, but the tendency is to drift into another of those wide swings out of hogs and into corn.

The Wheat Belt caught the blow quite accurately on its solar plexus. It cut down spring wheat and to some extent winter wheat, in favor of flax, corn, rye, oats, potatoes, legumes, grass, and such livestock enterprises as dairying, hogs, and sheep. There has been a good deal of talk in the north of "diversification," the meaning being in most cases less wheat and more corn, alfalfa, sweet clover, dairy cattle, and hogs. But while there is a slow and steady drift all the while away from the one-crop system, the actual extent of this diversification as a readjustment measure is overemphasized. The real wheat men are equipped to grow wheat and the capital and changes necessary to revolutionize their farming can not be summoned over night. So the Wheat Belt has cut down some on its grain, increased its livestock and feed crops slightly, and for the rest has simply taken punishment as gamely as it might.

The Range Country of the Far West has had very definite developments in its two major lines, cattle and sheep. When the general crash in prices came in 1920, beef cattle prices went down to pre-war level, and there they have stayed ever since. The cattle industry simply went broke.

As an old Arizona stockman remarked, "General Sherman thought war was hell, but he should've tried raisin' cattle after a war."

Sheep and wool prices also dropped in the general smash, but at the end of 1921 wool prices began to recover. The fiber crops have been the only ones to feel a real revival in demand during the last four years. Lamb prices have also been helped by the great wave af urban prosperity and consequent demand for semi-luxury foods.

In so far as the Range Country has made a major readjustment in

production, therefore, it has been to cut down cattle and increase sheep.

The Pacific Coast is a fruit and diversified region, just as the Northern Atlantic Coast is a dairy and diversified region. Both these sections fared relatively better than the more specialized regions during the deflation period. The Pacific Coast is now feeling depressing effects on fruit prices, however, while the great market milk districts of the East are in difficulties over the surplus of milk. The readjustment in both areas has put greater emphasis on other enterprises already common to the region rather than on new ones—more poultry, butter, potatoes, and cash crops in the East, for example.

SUCH, in few words, is the story of the post-war shifts so far, on the farms. A period of violent rearrangement in price relationships, of drastic effort to so readjust production as to bring it again into some sort of line with relative prices.

Now the question is, what are the next steps in this readjustment business? What are the best things to do in the next year or two? More easily asked than answered.

Of course, nobody knows what the weather will be through this summer nor, therefore, how this year's crops will turn out. Barring crop failure or other unexpected development, the situation in respect to major lines of production will be in better all-around balance this fall than it has been in four years. Which may not be saying a great deal, but it is something. If we get as big a yield of corn as in the past four years, that crop will probably be fairly plentiful. The other feed grains have been planted in apparently about the right proportion to meet animal needs at fairly decent prices next winter. The main food money-crops, wheat, potatoes, vegetables, all promise to be in as good or better position, from producers' standpoint, than they were last fall. The other great money-crops, cotton and tobacco, promise fairly good returns even though prices might be lower than last year. Hog production is gradually slowing down, which may be expected to bring hog prices back to better balance with corn. The dairy industry is retrenching somewhat on the milk end, which will help to balance up the expanding tendency in western butter territory. The beef cattle industry is slowly moving into more favorable position and the sheep situation will still be generally favorable to producers for another year or two. Poultry producers will either have to go a bit easy on raising chicks next spring or eggs will be really cheap.

All in all, the policy that seems to best suit the times is one of conservatism. Production of the things that are high priced—at present cotton and wool—may be expanded somewhat, but not too much. The products very low in price—just now hogs, cattle, wheat, eggs, should be slowed down somewhat, but not too much. It is a mistake to expect that violent shifts from one thing to another will beat the game. In fact, this very state of continuous and violent readjustment now constitutes the game. There is hardly any way of beating the game for farmers under present conditions. However, farmers here and there all over the United States, are breaking even; some men quite a little better than even.

In so far as any general basis seems to underlie the operations of these more successful men at present, it is this: they are sticking to a tried and tested system of farming, leaving out the frenzied effort to get into something new, are raising as much of their living as possible, and are everlastingly watching expenses. Conservatism is the good business these days—grow food for the family and feed for the animals; when a dollar is spent make it bring something of value in return, and

be sure the return is in sight not too many years ahead. Buy feed sparingly, buy fertilizer carefully, buy building materials not at all except for the most essential needs.

We must get it thoroughly in mind that agriculture is going through a different sort of period from the pre-war or war times. We rode up for 20 years with the balloon of rising prices, meanwhile expanding our economic chest and straining to view wider horizons of production. Now we are drifting down with a parachute of falling prices and the feat will be difficult enough even for those who do not thrash about violently in mid-air. Those Armistice orders that went down the battle line in France in November, 1918, switched the economic current abruptly and completely. Whereas the watchword for agriculture for years prior to that time had been *production*, the watchword since has been, and for some time to come will be, *economy*.

The County Agent's Wife

(*From page 7*)

away from the office a great deal and at such times the phone operator switches all calls to the house where it is a rare occasion that my wife cannot give the information called for and, if she cannot, she locates me and has me get in touch with the interested party.

One instance of the class of problems presented which would probably faze the average woman was when a lady some eight miles in the country called the office for advice as to a calf that had bloated on alfalfa and wanted me to bring the trochar out post haste and tap it. My wife told her I was away and suggested that the lady do the work herself as it was a simple matter. After much protestation that such a thing was absolutely impossible, etc., etc., the lady finally decided she would try it if she was told how to do it and what to use.

After canvassing the knives she was told to take the potato paring knife and was instructed as to how deep to make the incision and promised that I would come out and see her as soon as I returned, the phone was hung up. The calf was saved and is now a valuable milk cow while the lady is convinced that she is a veterinarian and that if the wife could be kept in the county there would be no need for a county agent.

I am not making it strong enough when I say that fully half the questions asked by the people in regards to homemaking, club work, poultry, prices and varieties of seed for planting and their source of supply, schedule of meetings and the thousand and one things that are referred to a county agent are answered by her either by phone, personally or by letter.

In other words my work as a county agent would have been a practical failure without the constant assistance and advice of my unsalaried partner.

I hear some say,—"Yes, but she could do that since there was no family." Yet there does happen to be a family of three of an age that needs close supervision—from 16 down—so there is another guess coming.

You say she receives no compensation then how and why does she take the time to do all this? Well as to "how" she does it I cannot say but I do know that it is never necessary to wait for a meal or feast on the "leftovers"—never neccessary to coax or argue to secure her cooperation in anything that tends to the advancement of my work or of the interests of the people of my county and as to "Why" she does it—well, first of all, I believe she sees in the work an opportunity to serve others and in this way help make the world better and brighter and lastly because as my partner she knows she is helping me.

By the Readers of Better Crops

Greater efficiency in crop production will benefit the farmer more than anything else. To this end the chief effort of the farmer should be:—

a Greater yield per acre through the use of fertilizer.

b The use of improved labor-saving machinery.

c The use of well-bred, high yielding seed.—*C. A. Whittle, Agricultural Editor, Atlanta, Ga.*

Stop over-production of unprofitable crops.

Reduce cost of production of all crops by approved methods.

Refuse to accept political price-fixing panaceas which will only aggravate present conditions.
—*Richard Faxon, Chief Division of Plant Industry, Columbus, Ohio.*

1. Farming needs a *square deal* in finance. This never had it.
2. Cooperative marketing.
3. A Cooperative Consumers' Association to lessen the "spread" between the producer and the consumer.

—*W. H. Barton, County Agent, Rockingham, N. C.*

1. Increase yield per acre and farm less acres.
2. Buy and sell through co-ops.
3. The problems of the farmer are mostly his own and should be treated as such.
3. The only way I can see a constructive program of agriculture can be worked out is by farmers, bankers, merchants and all getting together, to prevent throat cutting.—*W. Clayton Jester, County Agent, Oakland, Maryland.*

1. Too many poor (inefficient) farmers. Kill off a few—kick 'em out. Prevent their places being taken.
2. Better organized production. Cooperation must develop a lot yet.

Farmers must stand up against economic conditions like everyone else. No legislative panancea will do the trick. Abandon poor farms. Make good land produce more efficiently.—*John N. Fay, Middletown, Conn.*

Must be organized as industry. Local capital, well paid, skilled labor. All chance element eliminated as far as possible. All facilities for producing, curing, grading and in many cases manufacture produce graded Tobacco in Cuba. Sugar, Hemp, Rubber, Coffee, an example of what to do with our staple crop.—*H. M. Curran, Forester, Raleigh, N. C.*

These Young Folks Amazed Washington

(*From page 9*)

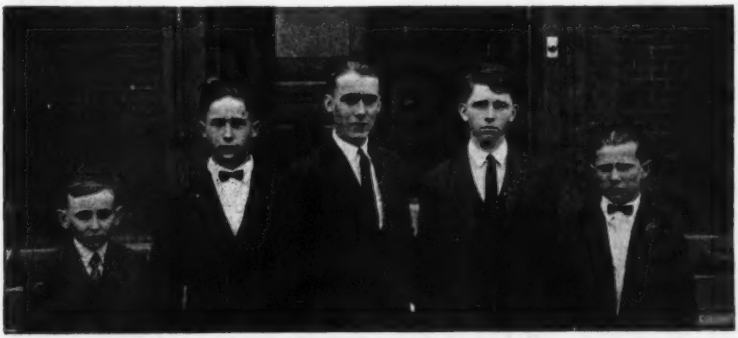
The cost of making the garments was $99, giving an estimated profit of $78. It was her fourth year as a member of the sewing club.

NO less commendable was the accomplishments of the three other girls. Thelma Reger, age 15 of Pendleton, was state homekeeping champion. She worked 1,071 hours in her home, canning, baking, preparing meals and school lunches, sewing, mending, and caring for the house, the yard and the poultry. This was all done between May 25 and December 31, and, if you care to do a little figuring, you will find that Thelma put in a total of 134 full working days of 8 hours each, or over 22 weeks. Here is a homemaker whom some Hoosier lad could well keep his eye on.

Mary Smith, age 17 of Burrows, state champion in the canning clubs, canned 305 quarts of eleven varieties of fruits, 366 quarts of six varieties of vegetables, 220 quarts of meats, 45 quarts of jelly and 28 quarts of butters, or a grand total of 964 quarts. It was her third year in this work. Thirteen year old Ester Edmondson of Clayton, designated the state baking club girl, baked 465 loaves of yeast bread 1,076 yeast rolls, 3,183 gems and biscuits, seven loaves of nut bread 98 pies, 39 cakes, 3,109 doughnuts and 379 cookies. Not bad vocations for girls during this day of the flapper. And there are thousands of other farm girls in all parts of the country whose lives are being directed along similar lines. So much for the girls.

Ten boys were winners in their respective sections in the corn and potato club work. Indiana is divided into five regions in these two contests and a winner is declared in each. It is interesting to note that in the case of corn, the state average is about 38 bushels to the acre while the average yield of the five winners who came to Washington was 105.6 bushels. Indiana's average production of potatoes is 85 bushels to the acre but these five winners produced 376.8 bushels. This augers well for the practical side of teaching the farm youth the advantage of improvement in seed, soil and cultivation.

Virgil Telfer of Brookston, 18 years of age, had a yield of 122.6 bushels of corn to the acre. He was followed by Henry Wing, winner in his section of the state with 115.8 bushels. Charles Nading of Hope was credited officially with 101.6



These five Indiana boys produced an average of 105.6 bushels to the acre, as compared with 36 bushels for the state

bushels of corn on his acre of land, just a fraction ahead of Maurice Lux of Shelbyville who grew 101 bushels. Youthful Elston Blythe, 12 years of age and living at Ft. Branch, was the smallest member of the party and he carried his record of 87 bushels of corn to the acre lightly.

THESE United States would never go hungry for the lowly spud if the practices of the five Indiana winners were universally used. Earl Miller of Pennville, one of the sectional winners, produced a total of 418 bushels of potatoes on one acre. A yield of 368 bushels is credited to Clyde Van Auken of Angola, James Strahl of Greenfield produced 328 bushels to the acre, Jerry McCarty of Gosport dug 260 bushels from his acre, while the list is brought up by Olan Wheat of Mt. Vernon who produced 310 bushels.

Howard Merideth, age 15 of Monrovia, is another Indiana youth who made the trip and has an enviable record. He is a member of the Vocational Agriculture class at Martinsville, organized to buy nursery stock and sell fruit co-operatively. His club won $265 at the Indiana State Fair last year and he led the list.

Health Work

Agricultural Extension Work is a success in proportion to the number of improved practices adopted and followed on the Farms and in the Farm Homes. There are a number of projects on this program, but none of them are proving more helpful than the work of the "Home Care of the Sick." There is some time, in the life of every farm family, a need for this work. We find that the leaders in the various communities are compelled to give assistance in case of emergency, and that this work must spread, even if the parties who took the work are inclined to be indifferent.

We have recently held a number of Result Meetings throughout Southeast Missouri, all of which were well attended, and the reports showed that there was a real interest in the work. In most every instance some improved methods had been put into actual practice, which helped to keep the family in good health or make the recovery of the sick more rapid.

There is one meeting that was held out at a little country school in the southern part of Pemiscot County, which we want to mention. The program was arranged so that the leaders from the various communities, who had taken the work would put on demonstrations showing those present what they had learned. About 225 farm folks were there for the purpose of learning these lessons. A basket dinner was served at the noon hour, after which the program was continued. Such things as bandages, handling a patient, use of disinfectants, and the medicine chest, were given consideration.

One of the most important things was a demonstration of the use of the medicine chest. One of the ladies, Mrs. Wm. H. Franzman, had prepared and equipped a medicine chest to exhibit at this meeting. Some of the little things, such as reading the label three times. pouring the contents from the bottle from the opposite side of the label, arrangements and things like that were very helpful. Then it was recommended that this medicine chest contain Baking Soda, Alcohol, Tincture of Iodine, Hand Lotion, Boric Acid, Vaseline, Aromatic Spirits of Ammonia and Carron Oil. Also, it was suggested that equipment such as a Measuring Glass, Absorbent Cotton, Sterile Gauze, Adhesive Plaster, Bent Drinking Tube, and a Clinical Thermometer, should be kept in this Medicine Chest. — *County Agent M. D. Amburgey, Caruthersville, Mo.*

By Ted Butlar

BETTER CROPS' Washington Correspondent

CONTINUED reports coming to Washington give striking evidence that recent increases in the prices of most farm products were brought about for sound economic reasons and furnish conclusive proof that prices will rule high this fall and winter. Morale of farming districts has improved in a marked degree along with better prices, and farmers in all sections are taking a new lease on life.

Particular relief has been brought to wheat states. Prices have been higher than they have for four long years and the crop has been above average. A decrease of about 8,000,000 pigs in the spring crop in the Corn Belt has placed the swine industry on a normal basis and this condition is reflecting profitable prices. The lamb and wool situation is satisfactory to all concerned. Production of hay crops and small grains are reported good and prices have been ruling higher. One reliable report says that agricultural conditions have improved to the point of reflecting higher prices for farm land.

The only uncertain spot in the horizon is the corn crop. Farmers who have had corn to sell have been getting profitable prices, but this year's crop is not guaranteed due to poor weather and uncertain growing conditions. It is pointed out, however, that it does not take a great deal of satisfactory weather for corn to catch up, and although reports are discouraging from some quarters only an early frost can cut the corn crop short. Financial condition of the Corn Belt states, discounting the uncertainty of the corn crop, has greatly improved due to higher pices of hogs and other products.

Establishment of a new Bureau of Dairying in the U. S. Department of Agriculture is meeting with universal approval. Dr. C. W. Larson, its new chief, says that plans for the future are quite largely a continuation of the work which has been going on for the past few years. It is his opinion that many of the fundamental problems of the dairy industry are yet to be solved and particular stress will be laid on research work. Approximately $400,000 will be available to the new bureau for its first years' work.

Several million dollars are being wasted in wheat screenings, government experts report, after making a study of the situation in the spring wheat states. Screenings wasted last year could have been fed to more than 3,500,000 lambs and returned to farmers by way of increased weight of lambs more than $8,500,000, it is stated. Nearly 12,000,000 bushels of screenings were produced last year. Screenings may be turned to valuable account by feeding them to livestock, says the U. S. D. A., and it has started out to see that farmers are thoroughly warned of this economic waste.

Things are still booming in the dairy industry. Milk production last year, according to recent figures, was seven billion pounds more than in 1922. Production is placed at 109,736,062,000 pounds as compared with 102,562,221,000 pounds in 1922. Another report says that the number of milk cows this year has increased 6 per cent over last year. That this increase is being absorbed by the consuming public is shown in another set of figures. Consumption of milk for household purposes reached 50,440,000,000 pounds last year as compared with 46,672,560,000 in 1922. Similar increases were shown in the amount of milk used in the manufacture of dairy products. The per capita consumption of butter increased a liberal half pound, and the American appetite for other products increased to a point of absorbing this heavy output.

It may not seem strange that the increase in cigarette smoking is making pronounced changes in the production of American tobacco. At least the U. S. D. A. says that the habit in this country coupled with a liberal demand from foreign countries is bringing cigarette tobacco to the fore. The combined acreage of the principal cigarette types, which are Burley and flue-cured tobacco, was 1,169,000 acres last year and a somewhat larger acreage has been noted this year.

During the past few years experts have said that flaxseed was a profitable crop for many farmers to consider. Despite a tremendous expansion in flaxseed acreage this year, the supply on the basis of average production per acre, will be still far short of consumption requirements. Last year the United States produced approximately 17,500,000 bushels of flaxseed, whereas average annual requirements during the past five years have been around 30,000,000 bushels. Many farmers are finding flaxseed a profitable addition to their rotation.

The Federal crop reporting service has just celebrated its sixty-first birthday. The service now has an army of more than 300,000 voluntary crop reporters whose regular reports on the condition of crops in their particular community make it possible to arrive at an average for the country. All the voluntary reporters work without pay and many of them have been in the service of the government more than a score of years. Leonidas Link of Rushville, Indiana, has been county crop reporter for the government for 54 years. Second place on the honor roll goes to W. T. Richardson of Clarksville, Tenn.

Speaking of crop reports, officials of the U. S. D. A. say that the air mail service is bringing tremendous advantages to agriculture and industry. A batch of California reports was recently received in Washington in less than two days, whereas formerly the reports were in transit nearly a week. According to Secretary Wallace use of the air mail service of the Post Office Department means not only a great saving in time, but a shortening of the period between the receipt of the reports and the date of their release in Washington.

Beware of Buckeye!

(*From page 25*)

sprouts, particularly on newly-cleared land and especially during the early spring before the grass has had a chance to develop. One of our good farmers, John R. Kirkham, of Blountsville, Indiana, reports excellent results in treating four buckeyed calves by administering epsom salts and keeping the sick animals out of the sprout-infested woods. This treatment is probably as good as any, but the main idea is to prevent cattle from having access to an abundance of buckeye and horse chestnut sprouts and nuts. An ounce of prevention may save a good many pounds of beef.

The County Agent and Cooperative Marketing

(*From page 12*)

forgotten that the real teacher must at all times seek to teach without bias, hewing to the line of facts.

Too often organization work is based on propaganda rather than on straightforward statements of reasonable possibilities. We lose sight of the fact that a cooperative marketing organization is merely a form of business enterprise which will stand or fall on performance. Most anything, no matter how good, can be oversold and since overselling is bad salesmanship it is something to be shunned. The pity is that where there is a real need for an organization it can be put across without resorting to reckless promising of results. A fair statement of possibilities beats overselling in the long run.

There is a wide difference between organization propaganda and real education. The former seeks to present cooperative marketing in a very favorable light in order to emphasize its possibilities—yes, unfortunately, at times to overemphasize possibilities—and not to say much of limitations. Real education must be more conservative and present both limitations and possiblities. This does not mean that an educational program in this field will turn out to be a mill stone about the neck of cooperative marketing. To the contrary, it will be an invaluable aid in the building of permanent cooperative marketing structures.

How much information does the average man have about marketing? What does he think about marketing? Has he an appreciation of the services involved in marketing? Does he know about the costs involved in marketing or does he think of the marketing spread as being an unnecessary toll which some one is levying without giving a return? Does he understand marketing difficulties clearly or are his ideas enmeshed in a hazy tangle of unnecessary middlemen, speculation, price-fixing, and the like? Does he recognize clearly that cooperative marketing associations in order to succeed must find their proper place in the marketing system? That cooperative marketing must perform real service and do so as effectively and economically as does private endeavor? Does he think and talk of distant organizations in glowing generalities or does he know what their strong and weak points are? Does he understand the fallacy of the oft repeated statement "That every one except the farmer fixes the price of his product?" Does he cling to the idea that the way out is to organize and fix prices on some arbitrary basis? Has he fully grasped the responsibility of membership in a cooperative marketing association so that he knows that it is up to him to do his share if the organization is to succeed? How well does he understand the requirements for success? In short, are there not many questions concerning which Mr. Average Man would welcome information? If so, is there not room for educational work in this field and is not this really the place for the extension service to come in?

TIME and again, pressure has been brought and will be brought upon the extension service to put its drive behind some particular plan or organization. Again and again the service has been charged with being out of sympathy with cooperative marketing because it is unwilling to pull some one else's irons out of the fire. What if the county agent should rush out on the road soliciting memberships and signatures in this and that organization, arguing, cajoling, promising, matching wits against wits? Could

he thereafter expect to be received as a fair minded teacher? Could he serve all his constituents regardless of their attitudes on these questions, or would he find that he had become simply an organizer and a promoter of a particular business enterprise and not a teacher and demonstrator of facts? Can he not better serve the farmer and do real constructive work by remaining within his proper sphere of activity?

THE real answers to all of these questions show that the extension worker has a place in the cooperative marketing field and that he can render a very valuable service by carrying on educational work in marketing in the same way as he is carrying on education relating to care of land and livestock, feeding of animals, maintenance of fertility, control of pests and the like. The limitations which exist are similar. The agent may talk about vaccination to control hog cholera. If he is wise, he does not promise perfect results. He tells what can reasonably be expected. He does not lead the farmer to expect that vaccination is going to double the weight of a hog. In the same way, if he knows that a cooperative marketing association can remedy certain marketing difficulties in the locality it would seem entirely proper for him to suggest this to his farmers for their consideration and to help them by giving them facts and telling them what cooperative marketing can reasonably be expected to do under existing conditions. He avoids the making of extravagant claims.

At times, an agent may find it necessary to discourage the use of certain feeds or fertilizers not because of any lack of quality, but because they do not happen to fit the particular conditions in hand. Similarly, there are times when he will discourage the consideration of cooperative organization for a certain situation because fairminded study of conditions has convinced him that the situation is not ripe for such a move. He will serve by so doing in that he may prevent failure with its subsequent discouragement to meritorious enterprises. Many a cooperative marketing undertaking for which there was a place has been held back because the people have been made wary by abortive attempts.

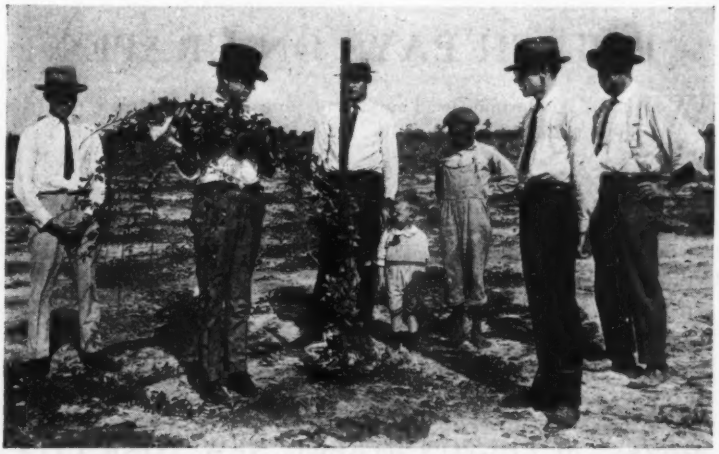
How can the county agent develop and carry out such a program? Certainly not by individual teaching. The real place is in community programs. In helping local groups work up programs and in encouraging earnest discussions at such meetings. A program in livestock feeding or soil building has a goal in view and has a road mapped out which leads to that goal. A similar project in marketing needs to have a goal in view and a charting of a route leading to that destination.

THE Extension Service in the State of Kentucky has made a beginning in the building up of such a program in marketing. A number of points have been suggested to the county agents for their consideration and they have been referred to bulletins and other sources of information where they may find material relating to that subject. Among the points included are: What marketing includes; What a cooperative marketing organization is; Why farmers organize for marketing; Early developments in cooperative marketing; The possibilities of cooperative marketing; The limitations of cooperative marketing; Essentials for success; Conditions favorable for cooperative marketing; Outstanding marketing organizations in different fields; Marketing contracts; Pooling; Financing; Relationship to economic laws; Importance of quality and grading; Market in-

formation; The individual member's part. This outline seeks to provide for the stimulation of constructive thought and for the dissemination of sound ideas which will be found useful in working out permanent marketing improvements. In such a program there is place for neither the agitator who wants us to believe that everything is wrong nor the man at the other extreme who refuses to see that anything is susceptible of improvement. Such a program if it is to get anywhere must be based on facts and must deal with facts. If "truth crushed to earth shall rise again," it behooves a man to try to be on the side of truth in all work of this character.

An educational program in cooperative marketing seems particularly apropos at this stage in view of the widespread interest in cooperative marketing. Remarkable progress in organizing has been made in late years. It is well to remember that the education problem has just been nicely started when organization has been completed. In fact, if over-promising has been resorted to, the work of education may have been increased. Marketing organizations themselves are appreciating the importance of such work. However, the emphasis seems often to be placed on the problem of maintaining the morale more than on the dissemination of information. A certain amount of reference to accomplishments is necessary but there would seem to be room for more work in acquainting the members with problems encountered and limitations involved. If this is not started until the "rainy day" comes, its effect may be lost because the members then will not be in a mood to listen and heed.

After all, a marketing association is a business enterprise belonging to and serving its members. Since it is their organization they are entitled to the hard, cold facts at all times. If they have a proper understanding of marketing and cooperation they will know how to act properly under the different situations as they arise. The purpose of a constructive educational program is to bring this about.



CountyAgent W. J. Tiller of Chesterfield County, South Carolina, demonstrating winding dewberry plants to stakes on a 30-acre dewberry farm.

Test on Grapes by Frank G. Dorman, Fredonia, N. Y.

Plot No. 1	Plot No. 2	Plot No. 3
	Complete Fertilizer	Incomplete Fertilizer
Yield: 1,792 lbs.	Yield: 2,432 lbs.	Yield: 2,016 lbs.

POTASH PAYS ON GRAPES

WHEN Mr. Dorman used sulfate of potash in a complete fertilizer, he got 224 additional lbs. of grapes for an expenditure of only $2.75.

Potash not only increases yield. It improves the sugar content and makes for better shipping qualities. A good grape fertilizer should contain from 8 to 10 per cent of actual potash. It will pay you to insist on Genuine German Pica Brand Potash.

Potash Importing Corporation of America

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San Francisco
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Baltimore
Citizens' Nat'l Bank Bldg.

What Potash Does for Crops

(*From page 14*)

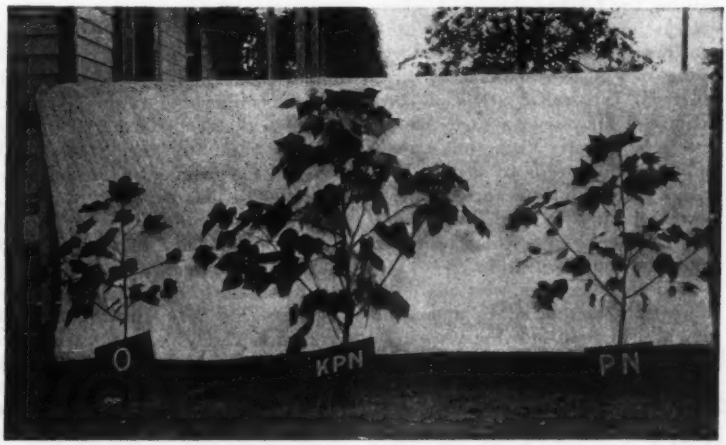
In fertilizer tests conducted at a sugar experiment station in Georgia a marked gain followed the use of 90 pounds of potash per acre, and in addition the ratio of suckers to stalks from planted buds was decidedly in favor of the potash application. In this case sulfate of potassium was used and check plots were treated with sulphur, in the amount which would accompany a 90 pound application of potash, with no yield increase resulting. Clearly potash did the work.

Rothamstead Experiment Station points out that various grasses suffer materially from the lack of potash, the stalks being weak and brittle and the plant failing to develop seed as well as showing many other evidences of decreased vigor and mal-nutrition. Similar work with mangel wurzels showed an increase from 12 tons to 28 tons directly due to potash. The quality of the larger yield was, in addition, far superior to that of the 12 ton lot, and the latter developed a leaf-spot fungus not found on the treated lot.

Marsh soils or heavy, peaty soils are apt to be particularly deficient in potash. On such soils Illinois Experiment Station shows an invariable increase of from 3 to 5 fold in favor of potash.

POTASH is indispensable for oats, barley and other cereals; for potatoes, onions, sugar beets and similar plants; and, most surprising of all, to legumes. These plants—in themselves soil improvers—turn to potash for their support, or as expressed in U. S. D. A. Farmer's Bulletin No. 1250—"an application of potash often increases the crop greatly and thus enables the plant to gather more nitrogen. The potash again becomes available when the crop is turned under."

Then potash improves the soil, creates a safe basis for agricultural prosperity, increases yields, improves quality, and makes our agricultural plants more resistant to wind, frost and diseases.



In this experiment on the farm of William Watts, Wake County, North Carolina, the plant on the left had no fertilizer, the one on the right received only nitrogen and phosphoric acid, while the one in the center had a complete fertilizer including potash. The increase in yield due to potash alone was 300 lbs. per acre.

Happiness

(*From page 6*)

now and here that two cows, done in India Ink on Waterman board did the trick for me.

For they aroused my sense of humour.

Have you ever seen that famous cartoon of the two cows?

Two pastures, with a barbed wire fence between. And a cow in each pasture.

In the further pasture the cow is stretching her neck over the fence to eat the grass in the near pasture; and the cow on this side of the fence is risking her Holsteinian neck in a vain and fruitless endeavor to get at the seemingly succulent grass on t'other side!

I saw the cartoon and laughed.

The title was, if I remember correctly, "The Other Fellow's Pasture Always Looks Greener."

But I changed the title, using an editor's prerogative—and a blue pencil—to "There is No Real Happiness—Only the Search."

And to prove that unhappiness lies in wishing for what we cannot have and in hoping for things that will do us no good when we get them, Edison, the Electrical Wizard, when asked what he considered the zenith of happiness, replied' "Why, living on a farm which is one's own, far from the hectic artificial condition of the city—a farm where one gets directly from one's own soil what one needs to sustain life; with a garden in front and a healthy normal family to contribute those small domestic joys which relieve a man from business strain."

And this the man who has done more than any other to make the city alluring—in fact the very man who invented the "flame in the glass bottle" around which fly the human moths!

A woman who all of her life had lived upon such a farm as Edison describes, asked what she considered the highest happiness, burst out, "Why, to live in a town where I could shop in a store that had more than one showcase!"

And there you are.

It proves my point.

Edison surfeited with the hectic, exasperating, flutterbudgetyness of the city; the woman starved for a glimpse of warmth and culture and rare merchandises. Both wanted what they could not have, and did not truly value what was theirs.

And both, I take it, were unhappy.

What, then, is the use of it all—if there is no happiness?

Of what can hope be fabricated if not of the thought that happiness is at least hovering near and may at any moment lovingly alight?

Ah, but you forget, my friend, that *most* of mankind believes that there *is* such a thing as happiness, and goes on continually in tireless search for it.

Only you and I know the truth!

And perhaps I am like my grandfather who, I remember, used every now and then to search frantically for his spectacles, only to find that all the time they were sitting on his forehead.

New Explosive for Farm and Road Work

One hundred million pounds of explosive, enough to load a freight train 40 miles long, is shortly to be made available to farmers for land clearing and to the States and Federal Government for road construction. This explosive, pyrotol, is to be distributed by the Bureau of Public Roads of the United States Department of Agriculture at the cost of preparation and shipment. This is a continuation of the work which has been carried on for the past three years whereby the vast supplies of explosives in the possession of the Government at the close of the World War are being made over to make them suitable for constructive purposes.

Pyrotol is composed largely of ground smokeless powder prepared

by a process perfected by George R. Boyd of the Bureau of Public Roads. It is peculiarly adapted for blasting stumps and for work of similar character. It can be used for all open-air work without causing headaches or other ill effects and will not stain the hands or clothing. It is a low-freezing explosive and can be used with good results in all ordinary temperatures. The cartridges are of the same size and shape as the ordinary dynamite cartridge. Each box contains 50 pounds, about 150 cartridges; and each cartridge is approximately equal in strength to a cartridge of 20 per cent dynamite. It is safe to handle providing that the ordinary care exercised in handling dynamite or other explosive is used. It is detonated by the No. 6 caps commonly used with commercial dynamites.

The laws under which these explosives are made available authorize distribution to the State highway commissions for use in road building, and to farmers for land clearing. There is no charge for the explosive itself, but the consumer has to pay the cost of preparation and the freight charges. These charges are different in various sections of the country, but, in general, the cost is about half the cost of an equivalent amount of commercial explosives. In each State, where there is sufficient interest in agricultural explosive, some State agency, usually the State agricultural college, takes the orders of the individual farmers, pools them into carload lots to decrease the freight charges and handles the details of the distribution. The Department of Agriculture can not accept orders for pyrotol except through such State agencies.

Shipping points for the explosive will be Repauno, N. J., Barksdale, Wis. and Du Pont, Wash.

It is probable that this pyrotol will be the last of the surplus war explosives to be distributed by the Department of Agriculture.

U. S. D. A. Press Service.

About Ourselves

BETTER CROPS is a monthly magazine edited primarily for those who act in an advisory capacity to the farmer.

PUBLISHED by the Better Crops Publishing Corporation, 81 Fulton St., N. Y. C.

SUBSCRIPTION PRICE — $1 per year. Single copies 10c each.

CHANGE IN ADDRESS — Readers should always give old as well as new address and allow at least three weeks for the change.

MANUSCRIPTS should be brief and preferably typewritten. They will be returned only when proper postage is enclosed. Payment is made on publication.

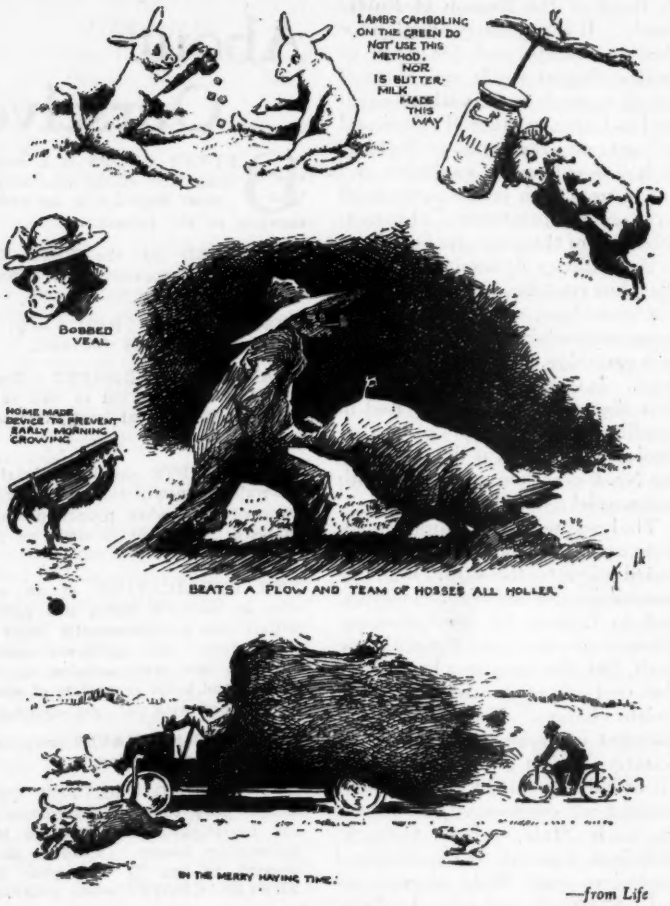
THE PUBLICATION of an article over an author's name, pen name or initials does not necessarily imply that we endorse the opinions expressed therein. We print articles for their interest and merit regardless of whether they accord with our own opinions.

ADVERTISING RATES may be secured upon application.

ADVERTISING — BETTER CROPS accepts only such advertisements as it has investigated and believes to be thoroughly honest. Readers are requested to say "I saw your ad in BETTER CROPS" when ordering.

INFORMATION SERVICE — We are glad to supply all the information obtainable regarding agricultural supplies or equipment to any reader who will address the Editor, stating his problems and furnishing necessary details. Your name will not be disclosed unless you desire it. There is no charge for this service.

BETTER CROPS PUBLISHING CORP.
81 Fulton Street New York


LAMBS CAMBOLING ON THE GREEN DO NOT USE THIS METHOD, NOR IS BUTTER-MILK MADE THIS WAY
MILK
BOBBED VEAL
HOME MADE DEVICE TO PREVENT EARLY MORNING CROWING
BEATS A PLOW AND TEAM OF HOSSES ALL HOLLER."
IN THE MERRY HAYING TIME.

—*from Life*

ON THE FARM

JOURNALISTIC PORTRAITS

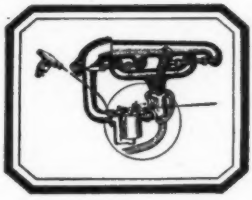
The American Farmer as You Picture Him After Reading the Metropolitan Papers

He got enough for his old corn on the financial pages to switch from a Ford to a Lincoln. When he cashes in on his new crop in the market forecasts he will have to pack the money in his silo while the bank is enlarging its vault. In the editorials he wonders how he could ever have imagined that the wheat pit might be manipulated against him. He smiles as he ships the ten-dollar hog in the article by the expert. He is the happy husbandman.

It is a pretty picture. If it were only a true one!—*McC. H. in Life.*

Over 100,000 Stromberg Carburetors and Hot Spots Sold for Fords!

A Carburetor sales record never before equalled — and made possible only by the fact that the STROMBERG CARBURETOR and HOT SPOT for Fords delivers more mileage—more power—than any other Carburetor offered. It makes possible quicker getaway and much easier starting—four great essentials that every Ford owner is looking for.



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New STROMBERG CARBURETOR Does it!

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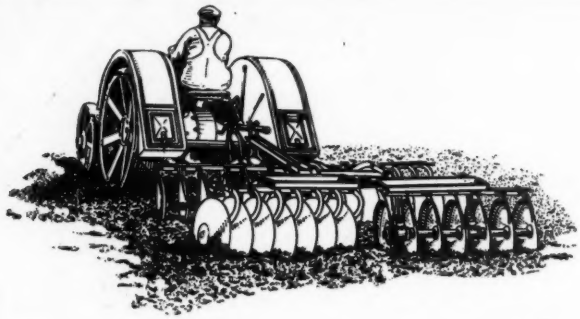

The Harrow for the Fordson

THE FORDSON is the farmers most modern and dependable source of power. The Oliver FDH disc harrow converts this power into better seed bed preparation, easily accomplished.

So simple in construction, so easy to operate the Oliver FDH disc harrow fulfills practical farm requirements. With a powerful quick-acting screw control both the front and rear gangs are angled in one easy operation. It is not necessary to dismount from the tractor—there is no loss of time.

Extreme simplicity of construction is made possible by improved design. All of the gangs are independent in action giving the flexibility necessary for proper discing.

The Oliver method of hitching the draw bars is very advantageous. There is a natural downward pull on the cutting edges of the discs, which are pulled into the ground rather than pushed in by extra weight.

As for the work of the disc itself—we ask that you see it and compare it with your own idea of quality discing.

OLIVER CHILLED PLOW WORKS

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